Application Server 5300

Nortel AS 5300 Installation

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Procedures

New in this release

The following sections detail what's new in *NN42040-300 Installation* for Nortel Application Server (AS) 5300 Release 1.0.

Features

This section details the changes in Nortel Application Server (AS) 5300 Release 1.0. For an overview of the AS 5300 solution, see *Nortel AS 5300 Overview* ((NN42040-100)) .

Other changes

This document is new for AS 5300 Release 1.0.

Revision history

November 04 2008	Standard 01.04. This document is up-issued to add technical content under section Maintenance Releases and in Downgrade system components chapters.
October 22, 2008	Standard 01.03. This document is up-issued to add technical content under section Deployment options and in AS 5300 software deployment and Maintenance Releases chapters.
July 11, 2008	Standard 01.02. This document is up-issued for AS 5300 Release 1.0.
June 10, 2008	Standard 01.01. This document is issued for AS 5300 Release 1.0.

Introduction

This document provides information about the installation of the IBM x3550 servers for Nortel Application Server (AS) 5300. It describes the installation of the physical hardware, platform software, and database software, as well as information about Multimedia Communication Protocol (MCP) software deployment, patches, Maintenance Releases, firmware updates, and system downgrades.

This document provides instructions that apply to the initial installation of AS 5300 servers and for server platform software reinstallations as part of backup and restore procedures. The AS 5300 does not support upgrades from other MCP products.

For more information about the topics covered in this document, see *Nortel AS 5300 Fundamentals (NN42040-100)*.

Attention: Each AS 5300 software load package includes Release Notes. You must read and understand the Release Notes before you begin the installation of the system.

Navigation

- "Deployment options" (page 9)

Deployment options

The AS 5300 has two system configuration options:

- a small redundant system, which supports up to 5 000 subscribers
- a medium redundant system, which supports up to 25 000 subscribers

For a small redundant deployment, the minimum baseline configuration for the AS 5300 infrastructure consists of two (2) IBM x3550 servers with all MCP components on each box.

For medium redundant systems, the minimum baseline configuration for the AS 5300 infrastructure includes four (4) IBM x3550 servers with the following mapping to software modules:

- two (2) servers with Session Manager and IP Client Manager
- two (2) servers with System Manager, Database Manager, and Provisioning Manager

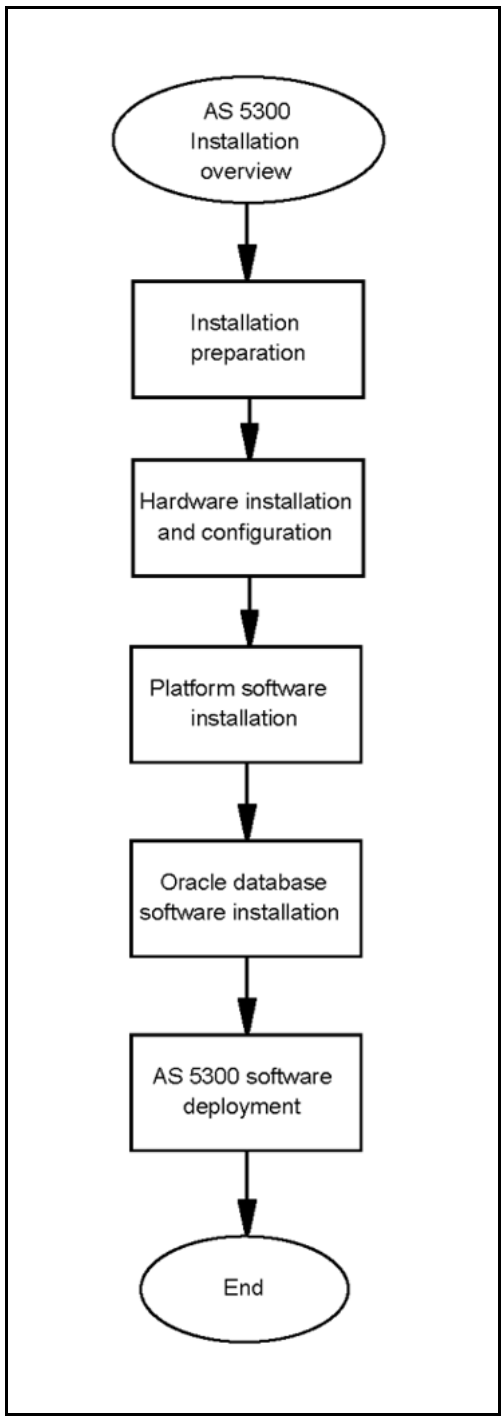
For more information about the appropriate system deployment for your installation, see *Nortel AS 5300 Planning and Engineering* (NN42040-200).

Installation overview

This chapter describes the steps required to install AS 5300 servers and the approximate time needed to complete each step.

Installation overview procedures

This diagram shows the steps required to complete AS 5300 installation.



Installation overview navigation

- "Installation times" (page 12)

Installation times

This section describes the approximate time required for each major step of the AS 5300 installation process.

Table 1
Installation preparation

Installation step	Approximate time required to complete
Unpacking the hardware	10 minutes

Table 2
Hardware installation and configuration

Installation step	Approximate time required to complete
Mounting the hardware	20 minutes
Connecting the hardware	20 minutes
Resetting the planar BIOS	5 minutes
Resetting the ServeRAID BIOS	5 minutes
Configuring the RSA-II card	10 minutes
Configuring the planar BIOS	5 minutes
Configuring the ServeRAID BIOS	15 minutes

Table 3
Platform software installation

Installation step	Approximate time required to complete
Starting the Linux operating system installation	1–2 minutes
Configuring the networking, serial console redirection, and time zone settings	10 minutes
Configuring the NTP, Syslog, and Audit Daemon settings	2–3 minutes
Configuring the BIOS hardware clock	1–2 minutes
Configuring accounts and passwords	5–10 minutes
Installing Linux updates	15 minutes

Table 4
Oracle database software installation

Installation step	Approximate time required to complete
Installing Oracle	35 minutes (Primary and Secondary performed in parallel)
Installing Oracle updates	15 minutes

Table 5
AS 5300 software deployment

Installation step	Approximate time required to complete
Downloading the MCP software	5 minutes
Preparing the initial load for deployment	5 minutes

Table 5
AS 5300 software deployment (cont'd.)

Installation step	Approximate time required to complete
Deploying the initial software load	45–50 minutes
Updating the licensekey	10 minutes

Installation preparation

This section describes the preparation of materials and hardware required for installing the AS 5300 server.

Navigation

- "Unpack the materials" (page 15)
- "Customer-specific information" (page 15)

Unpack the materials

Before installing the server, verify that all of the necessary components required for installation are on-site. You require the following components:

- IBM x3550 core server
- CD/DVD set containing firmware updates
- AS 5300 Release 1.0 SIP Core New System Software Package, consisting of CD/DVD-ROMs containing the Linux operating system and Oracle database installation software, product documentation, and the MCP core load software
- USB keyboard, mouse, and monitor, or a keyboard, video and mouse (KVM) unit

The number of servers and software packages received varies depending on the type of system configuration you install (simplex or redundant).

In addition, ensure there are an adequate number of properly grounded electrical outlets for the server, monitor, and other devices.

For more information about server hardware, including the installation of hot-swap components and other devices, see *IBM System x3550 Type 7978 User Guide*.

Customer-specific information

Ensure that the Installation Planning Sheet lists all server names and IP addresses. Complete an Installation Planning Sheet for each individual server being installed.

This sheet is located in the chapter titled "Installation Planning sheet" (page 17).

Installation Planning sheet

This section contains the Installation Planning Sheet.

Use the Installation Planning sheet to compile the information required for installing an AS 5300 server. Print and complete an Installation Planning sheet for each server being installed.

Installation Planning Sheet (Individual Server)			
Item	**Applies To Server Type**	**Example Value**	**Actual Value**
Physical Installation			
19" Data Frame	All	Site-Dependent Labeling	
Location Within 19" Data Frame	All	Site-Dependent Labeling	
Switch Port Hosting eth0 Net I/F	All	Equipment-specific Labeling	
Switch Port Hosting eth1 Net I/F	All	Equipment-specific Labeling	
Switch Port Hosting RSA-II Net I/F	All	Equipment-specific Labeling	
Terminal Server Port Hosting Serial Console RS-232 Cable (if applicable)	All	Equipment-specific Labeling	
KVM Port Hosting Server Video and Keyboard (if applicable)	All	Equipment-specific Labeling	
Power Supply 1 Cabling	All	Equipment-specific Labeling	
Power Supply 2 Cabling	All	Equipment-specific Labeling	
Networking Information			
Server Host Name	All	ems1host	
Service VLAN ID	All	170	

Service VLAN Machine Logical Address	All	10.10.0.5	
Service VLAN Default Gateway	All	10.10.0.1	
Service VLAN Network Mask	All	255.255.0.0	
Maintenance VLAN ID	All	1265	
Maintenance VLAN Machine Logical Address	All	192.168.2.5	
Maintenance VLAN Default Gateway	All	192.168.2.1	
Maintenance VLAN Network Mask	All	255.255.255.0	
RSA-II Card IP Address	All	192.168.3.5	
RSA-II Card Default Gateway	All	192.168.3.1	
RSA-II Card Network Mask	All	255.255.255.0	
Remote Platform Backup Retrieval (Server Restore)			
Remote Server IP Address	All	10.12.1.5	
Remote Server User ID	All	bkupstor	
Remote Server User Password	All	n/a	
Remote server backup directory	All	./platform_backups	
Backup file name	All	mcpPlatform.ems1 host. 2007_10_29. 11_32_09.tar	
Miscellaneous			
Serial Console Port Baud Rate	All	9600	
External NTP Time Server (Clock Source) IP Addresses for runtime system	EMS1, EMS2	10.11.130.30, 10.11.131.31	
Primary NTP Clock Source (EMS1) IP Address	NES (all)	10.10.0.5	
Secondary NTP Clock Source (EMS2) IP Address	NES (all)	10.10.0.6	
Timezone	All	US / Central	
Syslog server (if required)	All	10.12.1.6	
External NTP Time Server (Clock Source) for RSA-II card	All (optional)	192.168.3.250	
Passwords			
Preconfigured Account Initial Passwords, if used (not required for restore reinstalls)			
ntappadm	All	QWEpoi43@!	
ntsysadm	All	QWEpoi43@!	

ntsecadm	All	QWEpoi43@!	
ntbackup	All	QWEpoi43@!	
ntdbadm	All	QWEpoi43@!	
IAO Single Account Information, if used (not required for restore reinstalls)			
IAO User Id	All	iaouser	
IAO Password	All	QWEpoi43@!	
GRUB Bootloader	All	QWEpoi12#$	
System Account Initial passwords (required for all installs)			
root	All	QWEpoi12#$	
ntossadm	All	QWEpoi12#$	
nortelrps	All	QWEpoi12#$	

Hardware installation and configuration

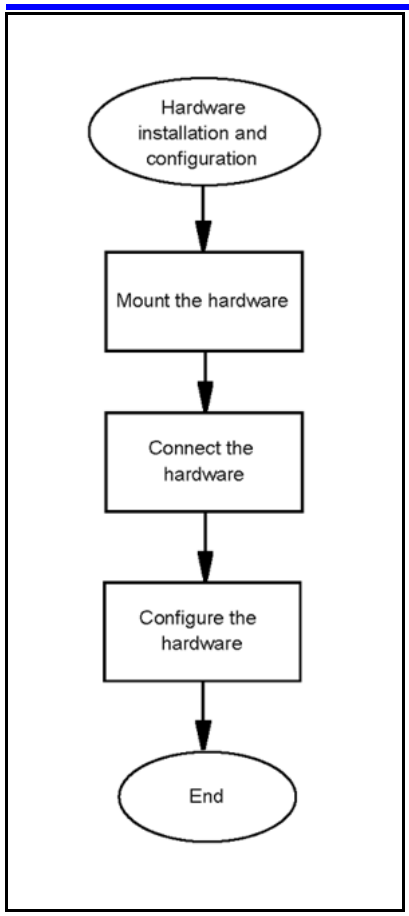
This section describes the procedures for installing and configuring the AS 5300 server hardware.

Prerequisites

For more information about basic hardware installation, see *IBM x3550 Installation Guide*.

Hardware installation and configuration procedures

This work flow diagram shows the steps required to install and configure the AS 5300 hardware.



Hardware installation and configuration navigation

- "Hardware overview" (page 22)
- "Mount the hardware" (page 23)
- "Connect the hardware" (page 24)
- "Networking overview" (page 27)
- "Hardware configuration" (page 30)

Hardware overview

The AS 5300 product uses the IBM x3550 server for its core server platforms. For more information about the hardware characteristics of the IBM x3550 server, see Table 6 "IBM x3550 hardware characteristics" (page 22).

Table 6
IBM x3550 hardware characteristics

Item	Description
Form factor	Height: 1U (1.69 inches), width: 17.3 inches, depth: 28 inches, weight: 34 lb, rack mount

Table 6
IBM x3550 hardware characteristics (cont'd.)

Item	Description
Server identification	x3550, Model 7978 AC1
CPU	2 x Quad-Core Intel Xeon processor E5420, 2.5GHz, 12 MB L2 cache, 1333MHz FSB, 80w
Memory	8 GB PC2-5300 CL5 ECC DDR2 Chipkill FB DIMM 667MHz
Disk	2 x 73 GB 3.5-inch SAS, 15000 RPM, hot swap; RAID-1 mirrored using IBM ServeRAID 8k-l SAS controller (hardware RAID-1)
AC power	2 x 670W A/C Power Supply (redundant, hot-swap); 2.8m, 100-240V, C13 to IEC 320-C14 (WW) rack power cable
DC power	2 x 670W D/C Power Supply (redundant; hot swap); 2.8m, 100-240V, C13 to IEC 320-C14 (WW) rack power cable
Remote management	Remote Supervisor Adapter II (RSA-II) Slimline with external RJ-45 Ethernet port (internal PCI card)
Optical drive	DVD/CD-RW
Cooling	Two fans per CPU, one fan per power supply
Networking	2 x 10/100/1000 Mbps
Serial	COM1, DB-9
Rail kit	Pizarro (Nortel-specified)

Mount the hardware

The AS 5300 server requires the Pizzaro rail kit for rack-mount installations.

Mounting the server

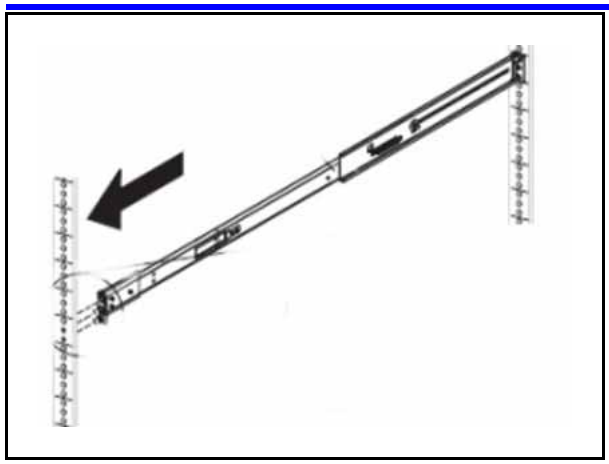
Use this procedure to mount the physical server into a server rack.

Prerequisites

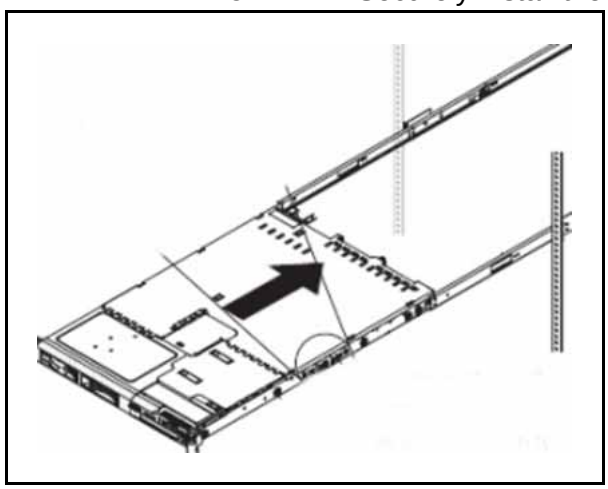
- You require a Pizzaro rail kit for each IBM x3550 server being installed.

Procedure Steps

Step	Action
1	Adjust the rail kit to fit in the frame. To properly support the server, each rail must be mounted to the outside of the front and rear of the frame.
2	Adjust the left and right rails by sliding the rear mounting bracket to fit the frame.



3 Securely install the rail kit and then slide the server into place.



4 Ensure the server is supported in the rear by the rail kit.

5 Bolt the front of the server to the front of the rail kit.

--End--

Connect the hardware

For more information about the front and rear panels of the AS 5300 server, see Figure 1 "Front panel of the AS 5300 server" (page 25) and Figure 2 "Rear panel of the AS 5300 server" (page 25) .

Figure 1
Front panel of the AS 5300 server

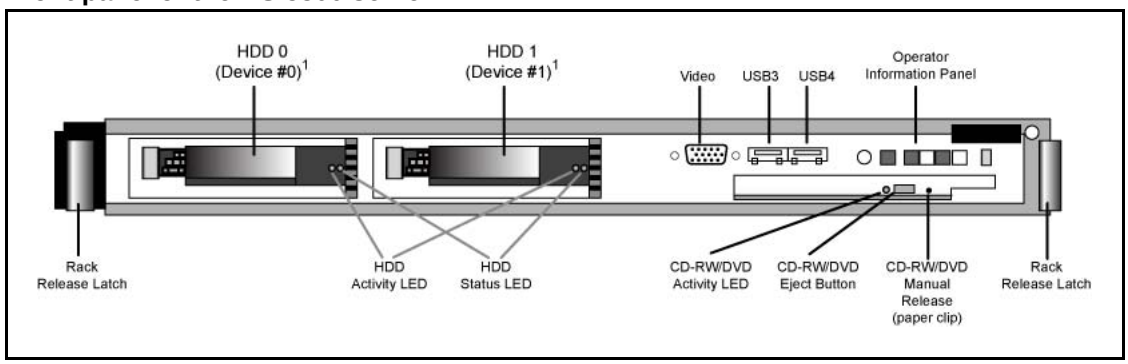
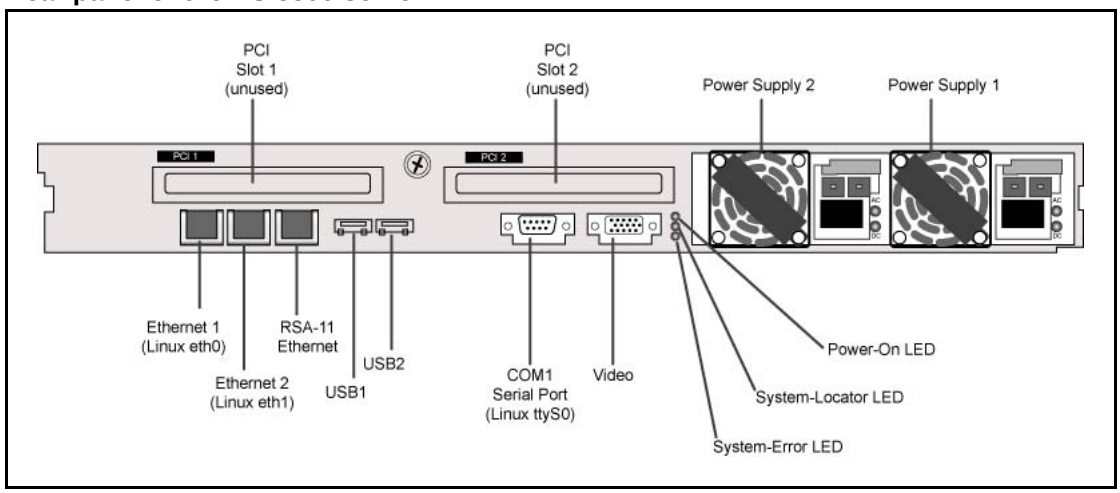


Figure 2
Rear panel of the AS 5300 server



Ethernet 1 and Ethernet 2 are the main Network Interface Card (NIC) ports that carry traffic for the primary application of the server. These ports are configured to run in redundant mode with one port active and the other on standby, so connect them to a redundant host switch.

The Remote Supervisor Adaptor (RSA-II) is a PCI card that provides an Ethernet interface for remote system management of the server. It includes an embedded Web server. When the server is secured, the RSA-II card Ethernet port provides HTTPS/SSH access to the RSA-II card for remote management of the server. This includes access to controls to manage the power state of the server and inspect physical attributes, as well as to gain encrypted remote access to the physical console of the server. This port is typically cabled to a port in a maintenance network, separate from the network used for the primary application of the server.

The COM1 serial port provides serial console access using an industry standard RS-232 serial cable and is typically connected to either a terminal server such as the MRV Models LX-40XX or it can be attached to a serial port on another computer using a null modem cable. If the COM1 serial

port is attached to another computer, such as a Windows-based computer, a program such as HyperTerminal can be used to establish a login session over the serial connection. COM1 is the only serial port supported for AS 5300 systems.

For more information about the serial port pinout for COM1, see Table 7 "COM 1 serial port pinout" (page 26).

Table 7
COM 1 serial port pinout

PIN number	Assignment	
	Name	**Description**
1	DCD	Data Carrier Detect
2	RXD	Received Data
3	TXD	Transmitted Data
4	DTR	Data Terminal Ready
5	GRND	Common Ground
6	DSR	Data Set Ready
7	RTS	Request To Send
8	CTS	Clear To Send
9	RI	Ring Indicator

During the software platform installation procedure, you have the option of configuring the COM1 serial port (in Linux, this is referred to as ttyS0) for console login during system runtime. The configured serial port has the following characteristics:

- 7-bit characters with even, odd, none, or space parity, and 8-bit characters with no parity are supported
- Only COM1 (ttyS0) is supported
- Terminal emulation is VT100
- The user has the option of configuring either a 9 600 or 19 200 baud rate

Connect a physical monitor or a KVM switch to the video port. This provides the physical KVM console. Nortel does not provide a KVM for use with this product.

Connect a USB keyboard, or a KVM switch, to one of the USB ports to provide a physical KVM console. A USB keyboard connected through a KVM switch can sometimes become unresponsive while switching consoles at the KVM keyboard. If this occurs, typing **CTRL+Q** toggles the flow control signals to restore keyboard communications with the server.

Attach the two redundant AC (Alternating Current) power modules to redundant AC power sources, as required by industry standards.

Networking overview

The standard networking configuration for the AS 5300 system is a Dual-VLAN configuration. In this type of networking configuration, the server is connected to two different VLANs (or networks):

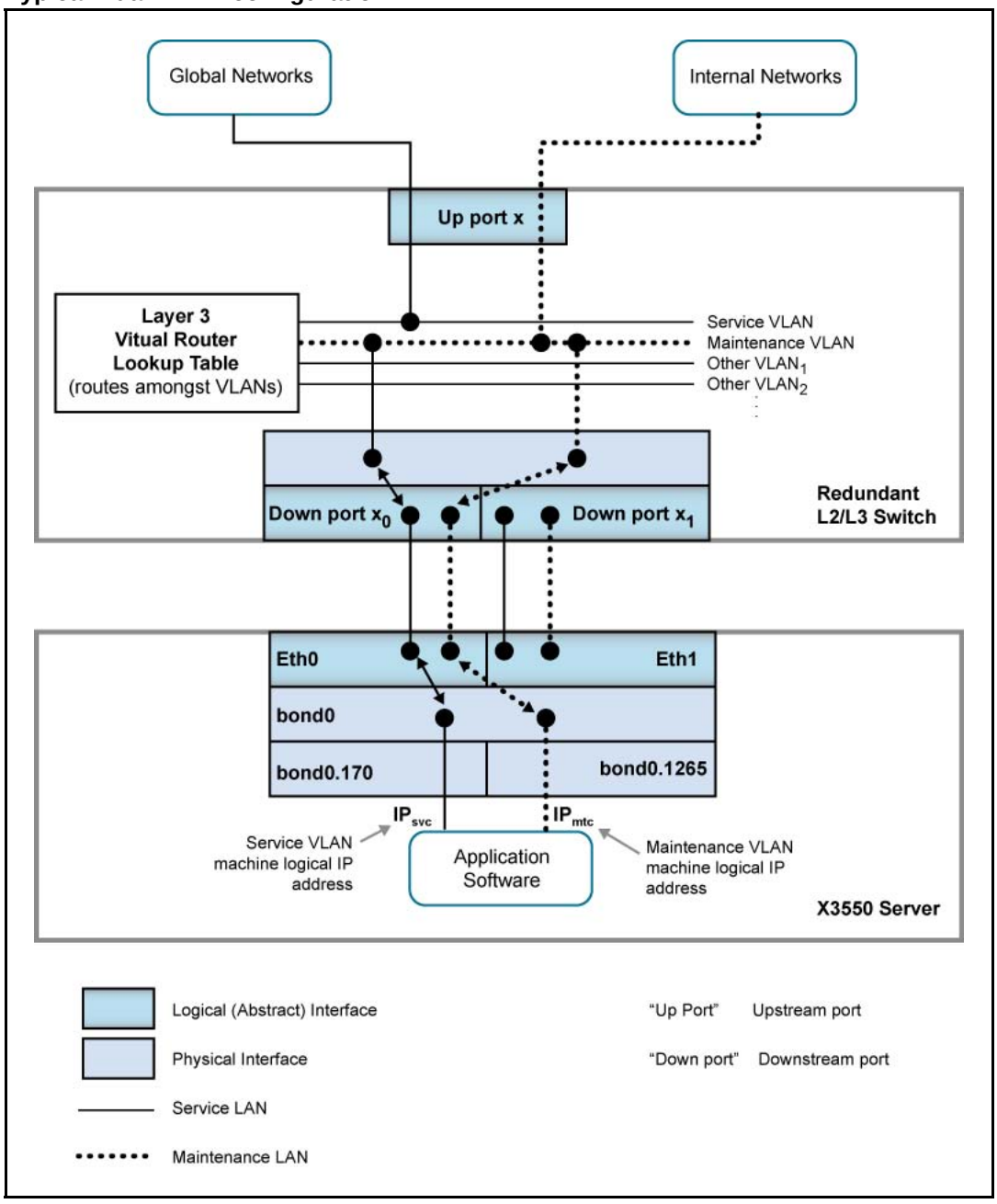
- Service network
- Maintenance network

The server has a machine logical address for each network and frames entering and leaving the server are tagged with the appropriate network identifier. The hosting network equipment must support VLANs and not perform VLAN tag processing on behalf of the server.

In a typical Dual-VLAN configuration, the majority of network traffic traverses the Service network. This includes signaling, Operations, Administration, Maintenance, Provisioning (OAMP), and software heartbeating. The Maintenance network is used for a few specific functions, including the extraction of Operations Support Systems (OSS) feeds by northbound Network Management System (NMS).

For more information about a typical Dual-VLAN networking configuration, see Figure 3 "Typical Dual-VLAN configuration" (page 28) .

Figure 3
Typical Dual-VLAN configuration



The server maintains the use of the kernel channel bonding module to implement the bond0 logical interface (enslaving eth0 and eth1 in active or standby mode). A second kernel module, the 8021q VLAN module, implements VLAN capabilities on top of the logical bond0 interface. This module implements one logical interface for each VLAN, where each is logically placed on top of the bond0 interface.

VLAN interfaces are named according to the following syntax:

<hosting_interface>.<vlan_id>

The AS 5300 server defines the VLAN interfaces to be hosted by the logical bond0 interface. Figure 3 "Typical Dual-VLAN configuration" (page 28) shows a VLAN interface named bond0.170, which belongs to the VLAN with ID 170, and the VLAN interface bond0.1265, which belongs to the VLAN with ID 1265. It is on these logical VLAN interfaces that the machine logical IP addresses of the Service and Maintenance VLANs are configured (one for each VLAN). Software applications are concerned only with these logical VLAN interfaces.

Nortel does not recommend Zero-VLAN configurations for standard AS 5300 configurations, but Zero-VLAN configurations can be implemented in non-standard configurations, such as in a lab or testing environment. Servers in a Zero-VLAN configuration have no knowledge of VLAN ID tagging.

Consult the Information Planning Sheet for details about network settings.

Network Time Protocol

Two Element Manager servers (EMS) serve as Network Time Protocol (NTP) clock sources for the Network Element servers (NES) in the AS 5300 system. You can configure the two EMS servers to receive their clock information from their internal system clocks or from external sources. It is recommended that you configure the servers to receive their clock information from external sources so that all of the servers in the system are synchronized with each other as well as with global clock sources.

If you configure the EMS servers to use their internal clocks as the system time source, the system is synchronized internally but has no synchronization with global clock sources.

In addition to being configured to use internal or external clock sources, the EMS servers maintain time synchronization with each other.

The NTP protocol is not secure. You can secure NTP traffic using symmetric keys for server authentication or by configuring the IPSec mesh. Symmetric keys are stored in a key file on both the client and clock source server. Modify the Network Time Protocol configuration file to specify which key in the key file to use. In 2-server or 4-server configurations, symmetric key usage is only configured on the servers hosting the System Managers. In the 4-server configuration, the non-System Manager servers

can have their time source server configured to use the System Managers, as IPsec is already configured between System Manager servers and non-System Manager servers.

For more information about security for Network Time Protocol, see *Nortel AS 5300 Security (NN42040-601)*.

Hardware configuration

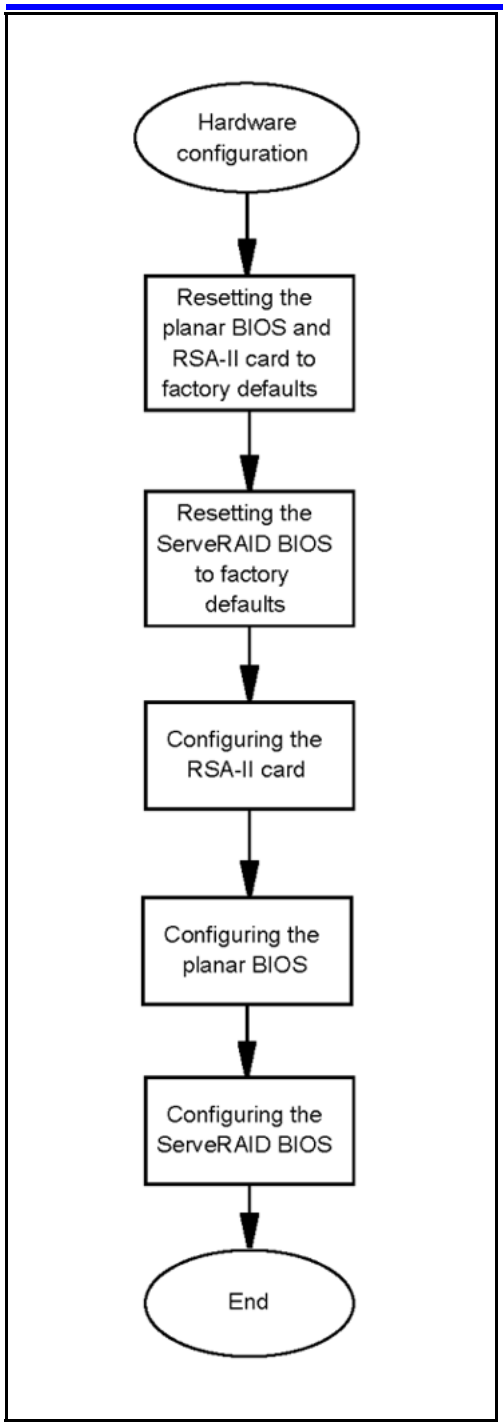
This section contains information and procedures for configuring the Basic Input Output System (BIOS) and RSA-II card on the AS 5300 server.

Prerequisites

- You require a USB keyboard, mouse, and monitor, or KVM unit.

Hardware configuration procedures

This work flow shows the sequence of procedures you perform to configure the BIOS on an AS 5300 server.



Hardware configuration navigation

- "Resetting the planar BIOS and RSA-II card to factory defaults" (page 32)
- "Resetting the ServeRAID BIOS to factory defaults" (page 33)
- "Configuring the RSA-II card" (page 35)

- "Configuring the planar BIOS" (page 36)
- "Configuring the ServeRAID BIOS" (page 38)

Resetting the planar BIOS and RSA-II card to factory defaults

When you install a new AS 5300 server (new installation or replacement of a failed server), you must configure the BIOS settings of the server to the standard product supported configuration. This involves the resetting of the BIOS settings to factory defaults followed by the application of product-specific configuration settings. Restoring of factory defaults for any of the BIOS components does not have an impact on the others. They need to be restored independently.

Use this procedure to reset the planar BIOS and RSA-II card to the factory default settings.

Attention: When you reset the RSA-II card, all existing network connections to the RSA-II Ethernet interface are disconnected and no further connections can be made until network settings are reconfigured.

Procedure Steps

Step	Action
1	From the physical KVM console, reboot the AS 5300 server and press **F1** at the IBM splash screen when prompted to access the planar BIOS configuration utility.
2	From the Configuration/Setup Utility menu, select the System Summary option and confirm "8192 MB" (8 GB) for Installed Memory. If it is not, contact your next level of support before proceeding.

Attention: If the system summary does not show 8192 MB, confirm the order code matches the serial number for the server against the shipping packing list (or the box the server was delivered in).

Order code XYSG9US: 8 GB of RAM AS5300 Linux Core Servers
Order code XYSGAUS: 4 GB of RAM MAS Platform Servers

It also possible that the server may have the correct order code

with the correct memory configuration but not recognized by the system. If this happens, contact your next level of support before proceeding.

---

3 Select **Advanced Setup**.

4 Select **RSA-II Settings**.

5 Select **Restore RSA II Defaults**.

Network settings for the RSA-II card are restored to factory defaults. Any existing network connections to the RSA-II Ethernet interface are disconnected and no further connections can be made until network settings are reconfigured.

When the reset to factory defaults is complete, the following message appears:

RSA II Defaults Loaded!

If data had been previously configured for the RSA-II card, that data appears.

6 Press **Enter**.

7 Press **Esc** until the top level menu of the planar BIOS setup utility appears.

8 Select **Load Default Settings**.

The following message appears:

Current settings will be changed to their default settings - Press Enter to continue.

9 Press **Enter**.

The planar BIOS is restored to the factory defaults.

10 Select **Exit Setup**.

11 Select **Yes, save and exit the Setup Utility** and press **Enter**.

The server reboots.

--End--

Resetting the ServeRAID BIOS to factory defaults

Use this procedure to reset the ServeRAID BIOS to the factory default settings.

WARNING
The resetting of the ServeRAID BIOS to factory defaults includes the destruction of all currently defined RAID arrays. This results in the deletion of all data on the disk drives and requires reinstallation of all server software.

Procedure Steps

Step	Action
1	Reboot the system. The system displays the following message: **`Press CTRL-A for IBM ServeRAID Configuration Utility`**
2	Press **CTRL+A** . The IBM ServerRAID Configuration Utility screen appears.
3	Delete any existing arrays (if configured during previous installations) by doing the following: • Select **Array Configuration Utility**. • Press **M** to select Manage Arrays. — If the message **`No Arrays present`** appears, there are no arrays configured. Press **Esc** to return to the top-level menu and continue with step 4. — Otherwise, the List of Arrays appears. • Highlight the array and press **Del** to delete it. • Select **Delete**.The system displays the following prompt: `WARNING: Deleting will erase all data from the array. Do you still want to continue? (Yes/No)` • Press **Y** to continue. • Press **Esc** twice to return to the top-level menu.
4	Select **SerialSelect Utility**.
5	Select **Controller Configuration**.
6	Press **F6** to reset to factory defaults.
7	Select **Yes** to reset the ServeRAID BIOS to default.
8	Press **Esc** to return to the previous menu. The system displays the following prompt: `Save changes made? (Yes/No)`
9	Select **Yes** to save changes.
10	Select **PHY Configuration**.

11	Press **F6** to reset to factory defaults.
12	Select **Yes** to reset the defaults.
13	Press **Esc** until you return to the IBM ServerRAID Configuration Utility screen.
14	Select **Yes** to save changes made.
15	Press **Esc** to exit ServeRAID setup.
16	Select **Yes** to save the changes and exit.

--End--

Configuring the RSA-II card

Use this procedure to configure nonsecure access for the RSA-II card.

Prerequisites

- The planar and ServeRAID BIOS have both been reset to the factory default settings.
- This procedure describes only the nonsecure configuration of the RSA-II card. For more information about configuring security for the RSA-II card, see *Nortel AS 5300 Security (NN42040-601)*.

Procedure Steps

Step	Action
1	From the physical KVM console, reboot the AS 5300 server and press **F1** to access the planar BIOS configuration utility.
2	From the planar BIOS setup utility screen, select **Advanced Setup**.
3	Select **RSA-II Settings**.
4	Highlight **DHCP Control** and use the left and right arrow keys to select **Use Static IP**.
5	Highlight **Static IP Address**.
6	Press the backspace key until the IP address field is empty, and type the IP address of the RSA-II card. Use backspace key to correct any data entry errors.
7	Highlight **Subnet Mask** and enter the subnet mask of the Ethernet interface of the RSA-II card (using the same method as for entering the IP address).
8	Highlight **Gateway** and enter the default gateway of the Ethernet interface of the RSA-II card (using same method as for entering the IP address).

9 Highlight **OS USB Selection** and use the left and right arrow keys to select **Linux OS**.

10 Select **Save Values and Reboot RSA II**.

11 When prompted, press **Enter** to confirm.

The BIOS is unresponsive for approximately 20 seconds while the RSA-II card reboots. When the card has finished rebooting, the following message appears:

```
RSA-II Settings Saved
```

12 Press **Enter**.

Ignore the prompt to reset the RSA-II card.

13 Press **Esc** until the **Configuration/Setup Utility** screen is reached.

14 Select **Exit Setup**.

15 Select **Yes** to save and exit the Setup Utility.

The RSA-II card is now configured for non-secure access using supported IP-based protocols, such as HTTP and TELNET. You can now reconnect the Ethernet cable.

For more information about configuring security for the RSA-II card, see *Nortel AS 5300 Security (NN42040-601)*.

--End--

Configuring the planar BIOS

Use this procedure to configure the planar BIOS.

WARNING

There is an option to configure an Administrative password during BIOS configuration. The configuration of BIOS passwords is not recommended; however, local security policies might require that BIOS passwords be used. Use extreme caution if configuring BIOS Administrative passwords. If the password is lost or forgotten, it cannot be recovered, and the motherboard of the server must be replaced. See *Nortel AS 5300 Security (NN42040-601)*.

WARNING

There is an option to configure a Power-on password during BIOS configuration. Do not configure Power-on passwords as this could possibly interfere with the restarting of servers.

Prerequisites

- The planar BIOS has been reset to the factory default settings.

Procedure Steps

Step	Action
1	Reboot the server and press **F1** to access the planar BIOS configuration utility.
	The following steps ensure that the Power-on password is not configured by deleting all existing Power-on passwords.
2	Select **System Security > Power-on Password**.
3	Highlight **Delete Power-on Password** and press **Enter**.
	The following message appears:
	Any existing power-on password will be deleted.
4	Press **Enter** to confirm.
5	Press **Esc** to cancel and return to the previous menu.
6	Select **Start Options**.
7	Highlight **Planar Ethernet PXE/DHCP**and choose **Disabled**.
8	Highlight **USB Disk** and choose **Disabled**.
9	Select **Startup Sequence Options**.
10	Highlight **First Startup Device** and choose **CD ROM**.
11	Highlight **Second Startup Device** and choose **Hard Disk 0**.
12	Highlight **Third Startup Device** and choose **Disabled**.
13	Highlight **Fourth Startup Device** and choose **Disabled**.
14	Highlight **Wake On LAN** and choose **Disabled**.
15	Press **Esc** twice to return to the top-level menu.
16	Select **Devices and I/O Ports**.
17	Highlight **Serial Port A** and choose **Port 3F8, IRQ 4**.
18	Highlight **Serial Port B** and choose **Disabled**.
19	Press **Esc** to return to top level menu.
20	Select **Date and Time**.
21	Highlight **Time** and enter the current local time.
22	Highlight **Date** and enter the current local date.
23	Press **Esc** to return to top level menu.
24	Select **Save Settings** and press **Enter** when the confirmation message displays.

25	Select **Exit Setup** and select **Yes** when prompted for confirmation.

--End--

Configuring the ServeRAID BIOS

Use this procedure to configure the ServeRAID BIOS.

Prerequisites

- The ServeRAID BIOS has been reset to the factory default settings.

Procedure Steps

Step	Action
1	Reboot the server. The server restarts and the following message displays: **`Press CTRL-A for IBM ServeRAID Configuration Utility`**
2	Press **CTRL+A**. The **IBM ServerRAID Configuration Utility** screen appears.
3	Select **SerialSelect Utility**.
4	Select **Controller Configuration**.
5	Select **Drives Write Cache**.
6	Choose **SATA Off, SAS Off**.
7	Press **Esc** to return to the previous menu.
8	Select **Yes** to the **Save Changes Made** prompt.
9	Press **Esc** to return to the **ServeRAID Configuration Utility** menu.
10	Select **Array Configuration Utility**.
11	Press **C** to create an array. The **Select drives to create Array** window appears. The Selected Drives list should be empty.
12	Highlight the first disk and press **Ins**. The selected disk is added to the right window and the second drive is now highlighted.
13	Press **Ins** to insert the second drive into the list. The second drive is included in the Selected Drives list.
14	Press **Enter**.

The Array Properties window appears.

15 In the Array Type sub-window, select **RAID 1(Mirror)**.

This cursor moves to Array Label.

16 For Array Label, enter **`mcp-raid1`** and press **Enter**.

The cursor moves to the Array Size line.

17 Press **Enter** to confirm the disk size (do not modify it), then press **Enter** to accept the size unit value of GB.

The cursor moves to **Create RAID via** and highlights **Quick Init**.

18 Press **Enter** to select **Quick Init**.

19 Press **Enter** to select **Done**.

The Array Configuration screen appears.

20 Press **M** to manage arrays.

The List of Arrays appears with the mcp-raid1 array listed.

21 Press **Esc** twice to return to the root level menu.

22 Press **Esc** to exit the ServeRAID configuration utility and select **Yes** on the confirmation window.

--End--

Platform software installation

This section describes how to install the AS 5300 platform software. The platform software consists of the underlying Linux kernel, which is the base-level software packages required for a Linux-based operating system, and the customized Nortel software, scripts, and server configurations that prepare the system for an AS 5300 environment. SIP core AS 5300 servers require the platform software installation. Use these procedures for the configuration of new servers and the reinstallation of the platform software due to server recovery.

Many of the prompts displayed during installation have default values contained within square brackets ([ ]). Pressing the Enter key indicates acceptance of the default values.

The Linux installer presents a series of questions to the user. At certain points during the question-and-answer process, the user is presented with a summary of the choices made. The user then has the option of correcting errors made during the earlier steps. Previous answers are provided as defaults, allowing the user to quickly accept them as correct values.

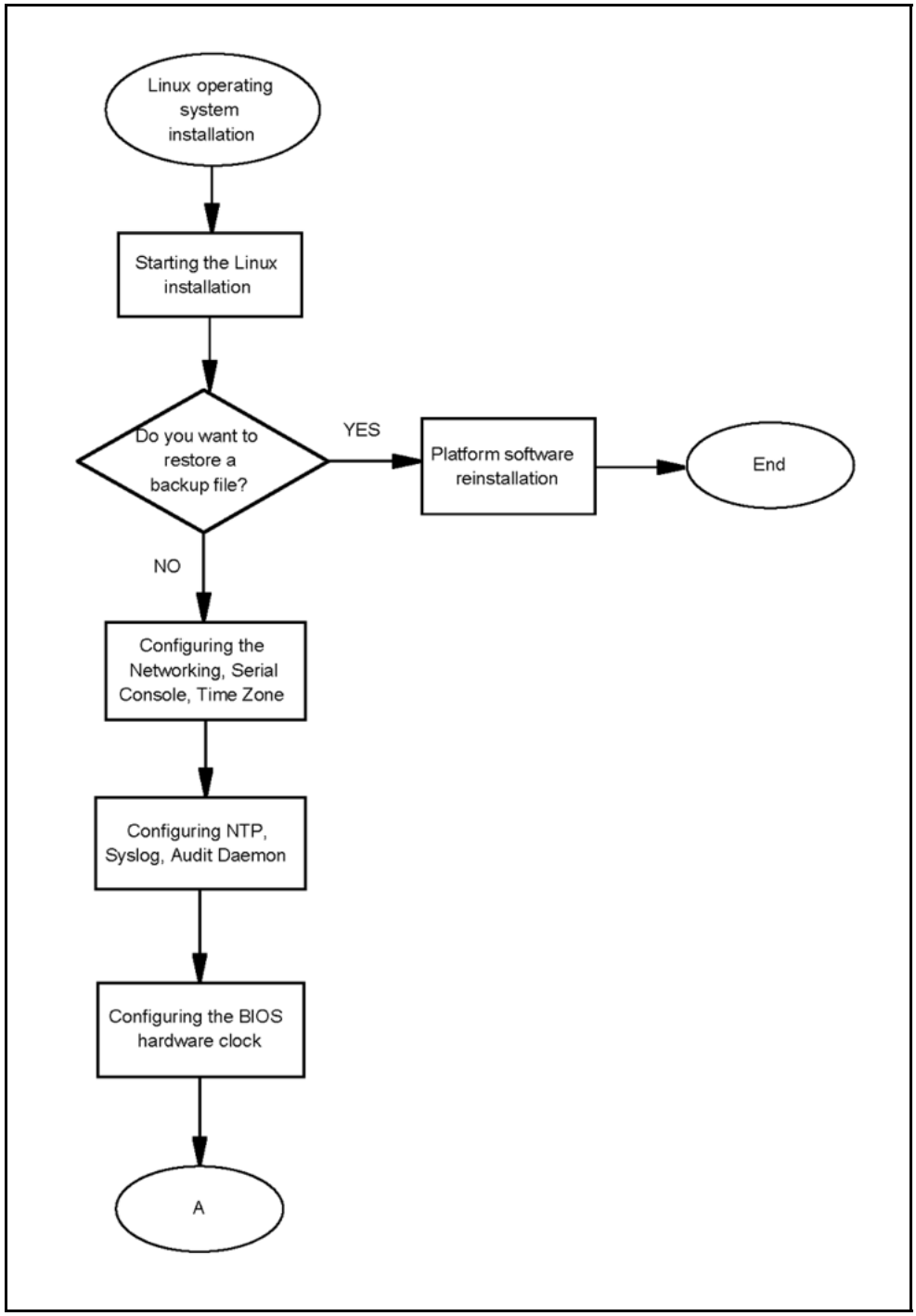
The Core Linux 11.0.x CD-ROM that shipped with your product contains the Linux installation files.

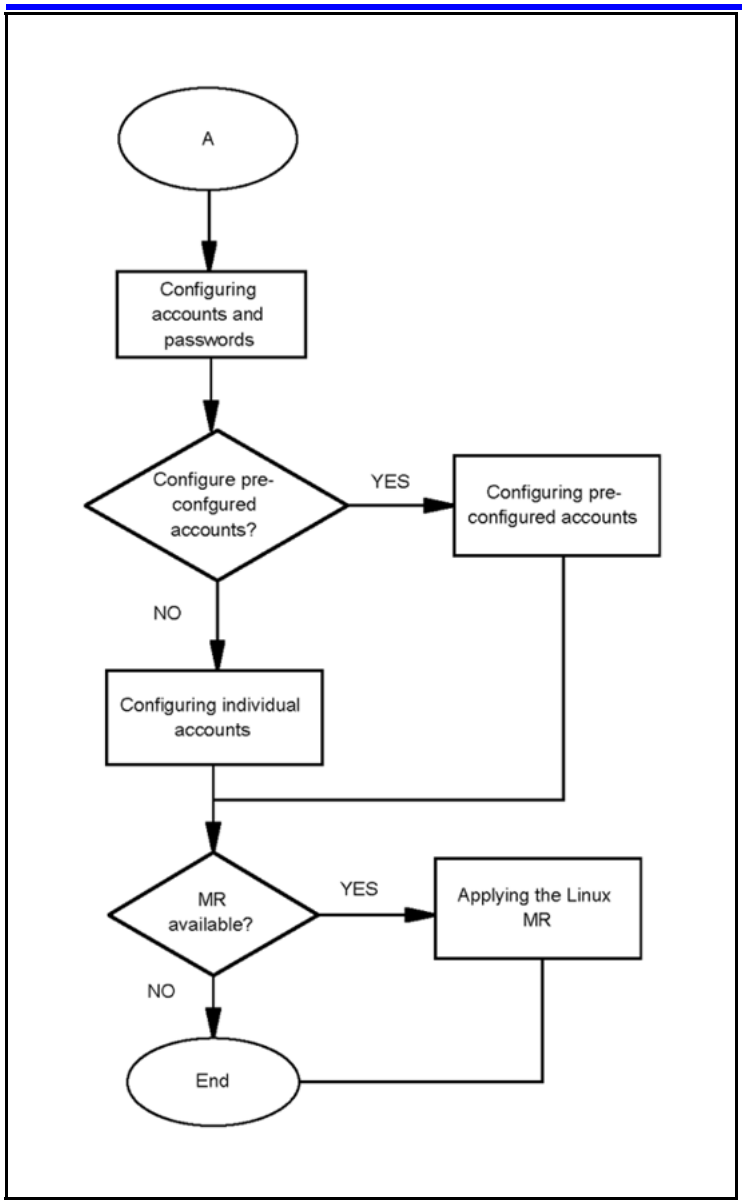
Perform the installation procedures using the physical KVM console or the RSA-II remote control.

Throughout these procedures, the term installer refers to the Linux installation script, and not the person performing the installation.

Platform software installation procedures

This work flow shows the sequence of steps required to install the platform software.





Platform software installation navigation

- "Starting the Linux operating system installation" (page 44)
- "Configuring the networking, serial console redirection, and time zone settings" (page 45)
- "Configuring the NTP, Syslog, and Audit Daemon settings" (page 47)
- "Configuring the BIOS hardware clock" (page 50)
- "Configuring accounts and passwords" (page 51)
- "Reinstalling platform software" (page 55)

Starting the Linux operating system installation

Use this procedure to initiate the Linux operating system installation process. This phase of the installation process accomplishes the following objectives:

- displays the licensing information
- gathers the hardware and system information
- presents the option to restore a remote platform backup file

Prerequisites

- Core Linux 11.0.x installation CD
- Core Linux Maintenance Release patch CDs (if applicable)
- CD-ROM drive is selected as first priority boot device in the system BIOS (normally set during initial BIOS configuration)
- Server backup file on a remote server (if applicable)

Procedure Steps

Step	Action
1	Load the Core Linux 11.0.x installation CD in the CD-ROM drive and reboot the server. The installation welcome screen appears.
2	At the boot prompt, type **`install-kvm`** and then press Enter. The Linux boot kernel (the version of the kernel that runs during the installation procedure) loads and the installation program starts.
3	The installer prompts for acceptance of the licensing agreement. Choose one of the following responses: Reply **Y** if you have previously reviewed the licensing agreement information and agree to it. **OR** Reply **N** (default) to review the licensing agreement information. The MCP Software Licensing menu appears. You can choose to review the Licensing Overview, the Summary of Open Source RPMs and Licenses, or Exit. After you have reviewed and accepted the licensing agreement information, installation continues. If you do not accept the licensing agreement, installation stops and the server reboots.
4	The installer scans for basic hardware configuration to determine and verify the system environment, and displays the list of detected disk devices with their storage sizes.

If the hardware verification fails, an error message displays, the installation aborts, and the server reboots.

Otherwise, the following message appears:

Press ENTER to Continue

5 Press **Enter**.

The system displays the following message:

Would you like to retrieve a platform backup file from a remote server?

6 If you are restoring a platform backup file, reply **Y** and proceed to "Reinstalling platform software" (page 55).

7 Press **Enter** to accept the default response of **N**.

The system configuration screen appears.

8 Press **Enter** to continue installation.

--End--

Configuring the networking, serial console redirection, and time zone settings

This phase of the Linux operating system installation includes the configuration of the following items:

- networking parameters for Dual-VLAN
- serial console redirection
- region and time zone selection

Prerequisites

- You have completed the steps described in "Starting the Linux operating system installation" (page 44).

Procedure Steps

Step	Action
1	The system displays the following prompt: **Enter hostname:** In a Dual-VLAN configuration, the hostname is associated with the Service VLAN machine logical address. Enter the hostname of the machine. The system displays the following prompt: **Enter Service VLAN ID (0=no VLAN) (0-4094):**

2 Enter the VLAN number associated with the Service network.

This number must match the VLAN ID associated with the Service network throughout the entire system configuration.

The system displays the following prompt:

```
Enter MACHINE logical IP address for VLAN
<SVC_VLAN_ID>:
```

3 Enter the machine logical IP address for the Service network.

The system displays the following prompt:

```
Enter default gateway IP address for VLAN
<SVC_VLAN_ID>:
```

4 Enter the default gateway IP address for the Service network.

The system displays the following prompt:

```
Enter netmask for VLAN <SVC_VLAN_ID>:
```

5 Enter the netmask for the Service network.

The system displays the following prompt:

```
Enter Maintenance VLAN ID (1-4094):
```

6 Enter the VLAN number associated with the Maintenance network.

This number must match the VLAN ID associated with the Maintenance network throughout the entire system configuration.

The system displays the following prompt:

```
Enter MACHINE logical IP address for VLAN
<MTC_VLAN_ID>:
```

7 Enter the logical IP address for the Maintenance network.

The system displays the following prompt:

```
Enter default gateway IP address for VLAN
<MTC_VLAN_ID>:
```

8 Enter the default gateway IP address for the Maintenance Network.

The system displays the following prompt:

```
Enter netmask for VLAN <MTC_VLAN_ID>:
```

9 Enter the netmask for the Maintenance Network.

The system displays the following prompt:

```
Please choose the serial port to be used for system
console redirection:
```

10 Do one of the following:

Disable the serial console redirection by selecting option **3** and proceed to step 12.

OR

Enable system console redirection by selecting option **1**.

The system displays the following prompt:

```
Please select the speed of the serial port:
```

11 From the list of port speed options, select the speed that best matches the speed used on the equipment attached to the RS-232 serial cable.

The system displays the following prompt:

```
Enter Region (1-62):
```

12 Enter the number that best represents the geographic region of the server.

Not all regions from the first level will have second-level choices defined.

If a second-level choice is defined for the geographic region, the system displays the following prompt:

```
Enter Timezone Selection for Region (0, 1-<xx>):
```

13 Enter the number that best represents the time zone of the server.

The system displays a summary of the current configuration settings.

14 Do one the following:

Type **Y** to confirm the configuration settings and continue with the Linux installation process.

OR

Type **N** to repeat the previous configuration steps and make changes.

--End--

Configuring the NTP, Syslog, and Audit Daemon settings

This phase of the Linux operating system installation configures the following items:

- Network Time Protocol settings
- Syslog configuration
- Audit Daemon configuration

Prerequisites

- You have completed the steps described in "Configuring the networking, serial console redirection, and time zone settings" (page 45).
- External time source IP address(es), if applicable.
- Remote syslog server IP address, if applicable.

Procedure Steps

Step	Action
1	During the Linux installation process, the system displays the following prompt: **`Please indicate the Clock Source function of this server:`**
2	Select the clock source.

If you are...	Select...
Installing an EMS1 server	Option 1
Installing an EMS2 server	Option 2
All other SIP core servers	Option 3

3	Configure the clock source. For more information about configuring the clock source for EMS1 and EMS2 servers, see . For more information about configuring the clock source for all other SIP core servers, see .
4	The system displays the following prompt: **`Do you wish to configure a Syslog Server IP Address (Y/N) [N]?`**
5	Do one of the following: Select **N** to not configure the syslog server IP address. **OR** Select **Y** to configure the syslog server IP address. If you select this option, enter the syslog server IP address. The system displays the following prompt: **`Do you wish to enable system audit? (Y/N) [N]?`**
6	Do one of the following: Select **N** to not enable system audit. **OR**

Select **Y** to enable system audit. Enabling the system audit might impact system performance.

The system displays a validation summary of the current configuration settings.

7 Do one of the following:

Type **Y** to confirm the configuration settings and continue with the Linux installation process.

OR

Type **N** to go back through the individual configuration steps and make changes.

After you confirm the settings, the installation process continues.

--End--

Configuring the Primary (EMS1) and Secondary (EMS2) clock source servers

Use this procedure to configure the primary and secondary clock source servers.

Prerequisites

- You selected option 1 or 2 at the Clock Source function prompt.

Procedure Steps

Step	Action
1	Do one of the following: Select **E** to use an external clock source (recommended). **OR** Select **I** to use an internal clock source (not recommended). If this option is selected, proceed to step 4.
2	Enter the number of external clock sources to reference (1-10).
3	Enter the IP addresses of the external clock source servers. The system displays the following prompt: **`Enter the MACHINE Logical IP Address of the <Primary/Secondary> Clock Source Server`**
4	If you are configuring the Primary (EMS1) server, enter the machine logical address of the Secondary (EMS2) server. **OR**

If you are configuring the Secondary (EMS2) server, enter the machine logical address of the Primary (EMS1) server.

--End--

Configuring the clock source for all other SIP core servers

Use this procedure to configure the clock source for all other SIP core servers.

Prerequisites

- You selected option 3 at the Clock Source function prompt.

Procedure Steps

Step	Action
1	The system displays the following prompt: **`Enter MACHINE Logical IP of the Primary Clock Source Server:`** Enter the machine logical IP address of the EMS1 server. The following prompt displays: **`Enter MACHINE Logical IP of the Secondary Clock Source Server [<PRIMARY_IP>]:`**
2	Enter the machine logical IP address of the Secondary (EMS2) server, overwriting the default IP address (EMS1 server) provided.

--End--

Configuring the BIOS hardware clock

The hardware clock is configured during initial BIOS configuration and can also be configured directly within the BIOS by using the BIOS setup utility. Use this procedure to modify the hardware clock settings during an installation without entering BIOS configuration directly.

The system clock of the runtime server is a software-based clock, separate from the hardware clock in BIOS. It is read by the Linux kernel as the runtime system initializes, providing the seed time for the software-based clock. Shortly after the system initializes, the NTP daemon running on the local server initiates its protocol with the configured clock sources to perform time synchronization.

The closer that the starting system time from the BIOS is to the actual time reference provided by these clock sources, the quicker the NTP protocol converges with these clock sources. Therefore, set the server BIOS clock to a value that is close to the current local time. Accuracy to within several minutes provides a reasonable starting point for an effective NTP convergence, but keeping it to within a minute is ideal.

Procedure Steps

Step	Action
1	During the Linux installation process, the system displays the following prompt: **`Do you want to keep this date and time (Y/N) [Y]?`**
2	Do one of the following: Select **Y** (default) to accept the current date and time as they appear. **OR** Select **N** to enter a new date and time. After the new date and time are confirmed, the data is written to the BIOS. The installer then continues with the next phase of Linux operating system installation.

--End--

Configuring accounts and passwords

This phase of the Linux operating system installation includes the configuration of user accounts and passwords.

During the Linux operating system installation process, the installer first determines if the accounts and passwords are being recovered from a backup file. If the accounts and passwords are being recovered as part of a restore process, the installer displays the list of user accounts to be recovered.

If accounts are not being recovered, use these procedures to create new accounts and passwords.

Attention: When configuring accounts and passwords during installation, you must choose one of the following options.

The installer presents the option to configure preconfigured accounts or an individual account. You must select one or the other. Each option includes the configuration of passwords for the mandatory system accounts. User account passwords can be recovered from a backup file but passwords for system accounts cannot be recovered. The installer prompts for the system account passwords.

Navigation

- "Configuring preconfigured accounts and passwords" (page 52)
- "Configuring a system for individual accounts" (page 53)

Configuring preconfigured accounts and passwords

Use this procedure to configure preconfigured accounts.

Prerequisites

- You have completed the steps described in "Configuring the NTP, Syslog, and Audit Daemon settings" (page 47).
- For more information about installing Linux Maintenance Releases, see "Applying the Linux Maintenance Release " (page 92).

Procedure Steps

Step	Action
1	During the Linux operating system installation process, the system displays the following prompt: **`Would you like to create pre-configured accounts for this system? (Y/N) [N]?`**
2	Reply **Y** to create the preconfigured accounts. (If you reply **N** to this prompt, the system configures individual accounts.) The system displays the following prompt: **`Do you want to use the same initial password for these accounts (Y/N) [N]?`**
3	Do one of the following: Reply **Y** to select the option to configure all of the preconfigured accounts with the same password. This password must be changed for all accounts after first login. **OR** Reply **N** to select the option to configure a password for each preconfigured account. The installer displays the account method confirmation screen.
4	Do one of the following:

Reply **Y** to accept the account method confirmation.

OR

Reply **N** to go back to the User Accounts screen and change selections.

Once the account method is confirmed, the installer displays the prompt to create the passwords. The password limitations and requirements appear on-screen.

5 If you selected the option to use a shared password, the installer prompts you to create the shared password.

If you selected the option to configure a password for each preconfigured account, the installer prompts you to create a password for each preconfigured account.

6 Create the user account passwords as prompted by the installer. Ensure the passwords meet the requirements displayed on-screen. The passwords must be entered again for confirmation.

The installer displays the system accounts configuration screen.

7 Create passwords for each system account as prompted by the installer.

The installer displays the following message:

`System Configuration Complete`

8 Press **Enter** to continue.

The installer applies the system configurations. This may take several minutes.

After the configuration has been applied, the server reboots. Login access is available at the physical server, through RSA-II remote control (if configured), and available SSH.

9 If applicable, install platform patches.

--End--

Configuring a system for individual accounts

Use this procedure to configure an individual account.

Prerequisites

- You have completed the steps described in "Configuring the NTP, Syslog, and Audit Daemon settings" (page 47).
- For more information about installing Linux Maintenance Releases, see "Applying the Linux Maintenance Release " (page 92).

Configuring a system for individual accounts

Procedure Steps

Step	Action
1	During the Linux operating system installation process, the system displays the following prompt: **`Would you like to create pre-configured accounts for this system? (Y/N) [N]?`**
2	Reply **N** to create an individual account. (If you reply **Y** to this prompt, the system configures preconfigured accounts.) The installer displays the SSA (System Security Administrator) account configuration screen.
3	Enter a name for the SSA account. Ensure the name meets the requirements displayed on-screen. The installer displays the account method confirmation screen.
4	Do one of the following: Reply **Y** to accept the account method confirmation. **OR** Reply **N** to go back to the User Accounts screen and change selections. After the account confirmation is accepted, the installer displays the prompt to create the password for the SSA account. The password limitations and requirements appear on-screen.
5	Enter a password for the SSA account. Ensure the password meets the requirements displayed on-screen. The installer displays the system accounts configuration screen.
6	Create passwords for each system account as prompted for by the installer. The installer displays the following message: **`System Configuration Complete`**
7	Press **Enter** to accept the configuration. The installer applies the system configurations. This may take several minutes. After the configuration has been applied, the server reboots. Login access is available at the physical console, through RSA-II remote control (if configured), and available SSH.
8	If applicable, install platform patches.

--End--

Configuring accounts and passwords job aid

Table 8
List of pre-configured accounts

Account name	Description
ntappadm	This account is used for SIP core server software administration.
ntsysadm	This account is used for system administration.
ntsecadm	This account is used for security administration.
ntbackup	This account is used for backup and restore administration.
ntdbadm	This account is used for database administration.

Table 9
List of system accounts

Account name	Description
root	This account is the root user on the system. This account is rarely used.
ntossadm	This account is accessed by software components from other servers to gain access to OSS feeds.
nortelrps	This account is accessed by the Nortel Regional Patch Selector (RPS) patching system to deposit patches files onto the MCP server.
bootloader	This is not an actual account on the system. Rather, this refers to the Grand Unified Boot Loader (GRUB), which is invoked by the planar BIOS to boot the operating system. This password is used to protect entry into the command line mode of the GRUB bootloader, where system booting parameters are modified.

Reinstalling platform software

Use this procedure to restore a platform backup file from a remote server during Linux installation. The platform backup file contains settings for the Linux operating system and other information.

For information about backups and restores, see *Nortel AS 5300 Administration* (NN42040-600) .

WARNING
Backup data is specific to each server. Only restore platform data to the server from which the backup data originated.

Prerequisites

- You have completed the steps in "Starting the Linux operating system installation" (page 44) and replied **Y** to the option to restore remote platform data.
- The remote server must have Secure FTP (SFTP) enabled.
- You must have a valid user name and password for the remote FTP server.
- You must know the networking properties for the remote backup server, such as the VLAN ID and IP address.
- For more information about installing Linux Maintenance Releases, see "Applying the Linux Maintenance Release " (page 92).

Procedure Steps

Step	Action
1	From the Remote Platform Backup Data Retrieval screen, enter the VLAN ID for the local network. The standard AS 5300 networking configuration is Dual-VLAN. Use the ID of the Service VLAN where the server IP is assigned.
2	Enter the IP address of the local machine.
3	Enter the default gateway IP address.
4	Enter the netmask.
5	Enter the IP address of the FTP server where the remote backup data file is located.
6	Enter the user name for the FTP server.
7	Enter the password for the FTP server.
8	Enter the remote server path where the backup files are located. The system displays the following prompt: **`Is this information correct?`**
9	Do one of the following: Reply **Y** if the information is correct. **OR** Reply **N** to go back and make changes. After the information is accepted, the system configures the local network and checks connectivity to the remote server. When connectivity is established, the installer lists the available platform backup files. The following is an example of an available platform backup files list:

```
MCP Backup Tar Files
1) mcpPlatform.as5300-micro-s1.yyyy.mm.dd.hh.mm.
tar
2) mcpPlatform.as5300-micro-s2.yyyy.mm.dd.hh.mm.
tar
0) Cancel remote TAR file selection
```

10 Do one of the following:

From the MCP Backup Tar Files list, select the file to restore.

OR

Select **0** to cancel remote retrieval and return to remote retrieval prompt.

Attention: Backup data is specific to each server. Only restore platform data to the server from which the backup data originated.

The Configuration Validation screen appears, listing the networking settings as retrieved from the backup file.

11 Reply **Y** to accept the Configuration Validation summary.

OR

Reply **N** if the information displayed in the Configuration Validation summary is incorrect or if you want to make changes.

If you select this option, you have the choice to start over and retrieve a different backup file or step through and modify the existing (embedded) backup information. You can refer to "Configuring the networking, serial console redirection, and time zone settings" (page 45) for more information on these steps.

When the Configuration Validation information is accepted, a second page of Configuration Validation information appears. This summary contains the Network Time Protocol (NTP), Syslog, and Audit Daemon settings.

The installer displays the following prompt:

```
Is this information correct?
```

12 Reply **Y** to accept the information.

OR

Reply **N** to go back and make changes. The installer advances through the configuration settings one at a time. You can refer to "Configuring the NTP, Syslog, and Audit Daemon settings" (page 47) for more information on these steps.

The Date and Time is displayed.

13 Do one of the following:

Enter **Y** to accept the configuration.

OR

Enter **N** to change the BIOS hardware clock.

After the configuration is accepted, the user accounts display.

14 Press **Enter** to continue.

15 At the Password Configuration screen, enter passwords for the mandatory system accounts:

- root
- bootloader
- ntossadm
- nortelrps

You can refer to "Configuring accounts and passwords" (page 51) for more information on these steps.

The System Configuration Complete screen appears.

Attention: For NTP configuration changes, if symmetric keys were used, you must restore the keys to the server and execute the ntpConfig.pl script after installation.

---

16 Press **Enter** to continue the installation.

The installer applies the system configurations. This may take several minutes. When the configurations are complete, the CD ejects and the server reboots.

The operating system and all stored configurations imported from the backup file, such as ACL and IPSec configuration, are now restored to the server. For information on backup and restore, see *Nortel AS 5300 Security (NN42040-601)*.

17 If applicable, apply any Linux Maintenance Release patches to bring the system up to date with current baselines.

--End--

Oracle database software installation

This chapter contains information and procedures for installing the Oracle database software. Oracle is installed on the EMS1 and EMS2 servers.

Navigation

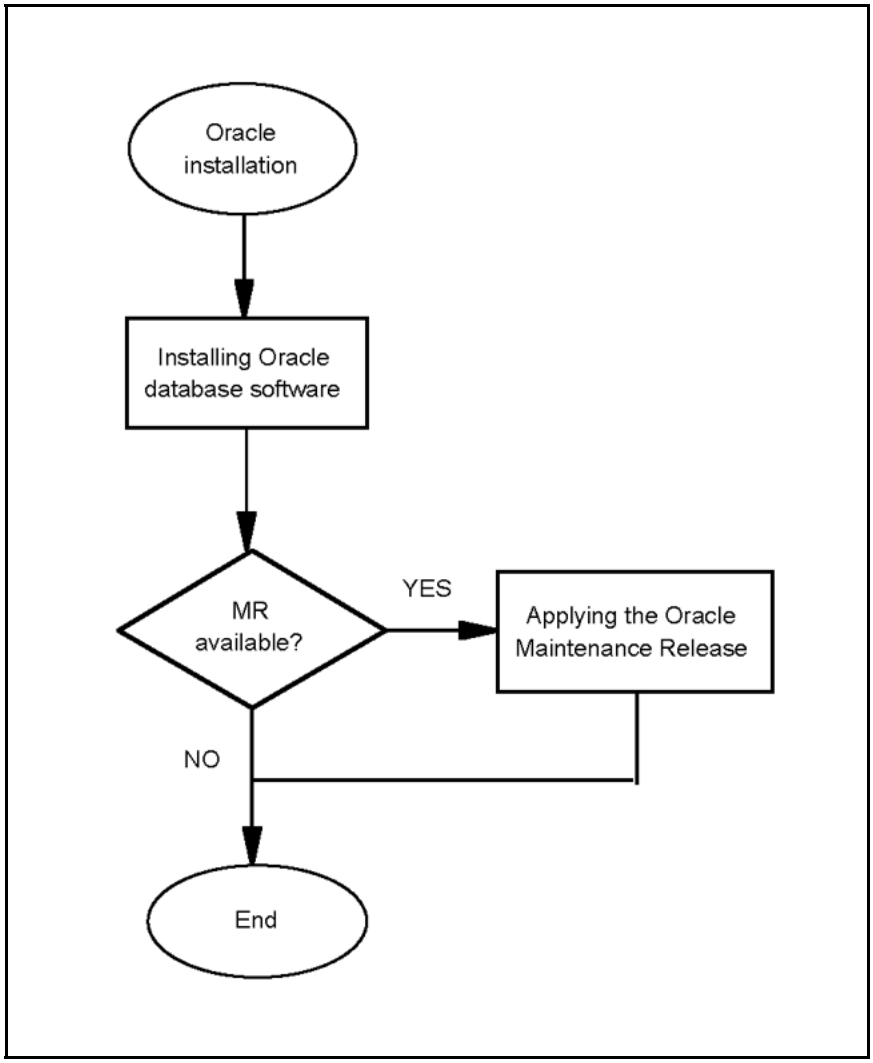
- "Oracle database software installation" (page 59)

Oracle database software installation

This section provides the procedures for installing the Oracle database software on an AS 5300 server.

Oracle database software installation procedures

This work flow shows you the sequence of procedures you perform to install Oracle database software on an AS 5300 system.



Navigation

- "Installing Oracle database software" (page 60)
- For more information about installing Oracle Maintenance Releases, see "Applying the Oracle Maintenance Release" (page 95).

Installing Oracle database software

Use this procedure to install the Oracle database software on the EMS1 and EMS2 servers. The Oracle software is provided on an installation CD or delivered by Electronic Software Delivery (ESD).

Prerequisites

- At least 6.5 GB of disk space is required for this installation.
- You must have sudo privileges.

Procedure Steps

Step	Action
1	Place the first disc containing the Oracle installation files in the CD-ROM drive of the database server.
2	Log on to the server as the SSA role (ntsysadm).
3	Change user permissions to root: **`su - root`**
4	Change directory: **`cd /usr/local/bin`**
5	Copy the installation files from the CD to the hard drive, changing the CD as prompted: **`./mcpCopyFromCD.pl`** If the installation files have been delivered by ESD, copy the installation files using this command: **`./mcpCopyFromESD.pl`**
6	When all of the installation files have been copied from the CDs, change directory: **`cd /var/mcp/db/install`**
7	Run the installation script: **`./installOracle.pl`**
8	Configure the password for Sys and System users, ensuring the passwords meet the criteria displayed with the prompt.
9	From the list of database configurations, select the appropriate x3550 database type. • For small (2-server) configurations, enter **`[4]`** for x3550 Micro. • For medium (4-server) configurations, enter **`[5]`** for x3550 Standard. Warning messages can appear. These messages are normal and no action is required.
10	When prompted, choose to have the installer remove the installation files. Nortel recommends that the installation files be removed to conserve disk space.
11	If applicable, apply software Maintenance Release updates and patches.
12	If you are restoring a database from an existing backup, follow the procedures for restoring a database as described in *Nortel AS 5300 Security (NN42040-601)*.

Otherwise, you have completed installation.

--End--

AS 5300 software deployment

This chapter contains information and procedures about AS 5300 software deployment.

Navigation

- "Core components" (page 63)
- "Staging files" (page 64)
- "Installation properties file" (page 65)
- "AS 5300 initial software deployment" (page 66)

Core components

The following are core components for AS 5300 deployments:

- System Managers
- Fault-Performance Managers
- Accounting Managers
- Session Managers
- Provisioning Managers
- IP Client Managers
- AudioCodes
- Media Application Servers (MAS)

To deploy the AS 5300 load, you require direct access to the servers. For a typical deployment, you only require access to the Element Management server on which you configure the primary or preferred instance of the SM (System Manager).

There are two access methods:

- Windows PC—Use a Secure Shell (SSH) client to access AS 5300 servers on the network from a Windows PC.
- Terminal Servers—Use Terminal Servers to connect remotely to AS 5300 components without requiring a dedicated Windows PC.

Staging files

Staging files are used to configure the initial system. The AS 5300 software load includes two sets of staging files consisting of an import file and a tags file. Two sets of staging files are defined based on the number of core servers in the configuration. The following sections describe these sets.

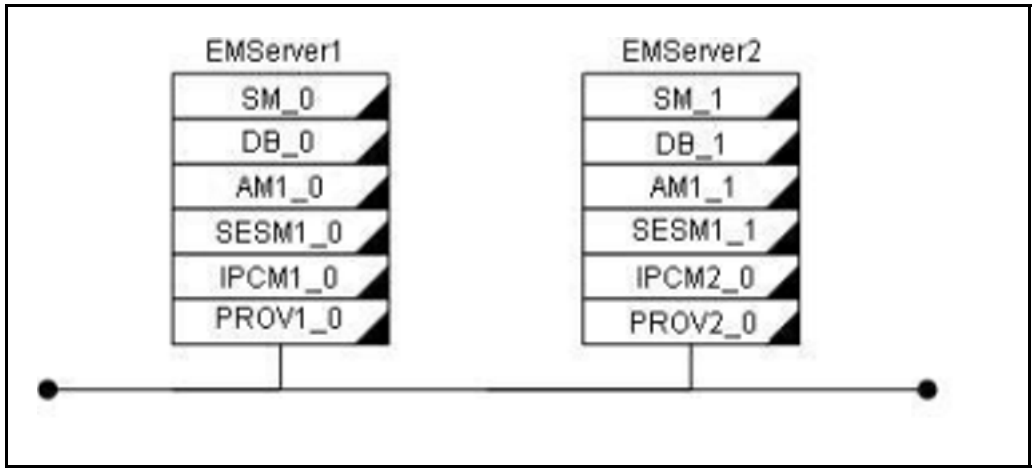
2-server staging files (small system)

2-server staging configurations consist of a redundant installation where all core components are distributed across two servers. For a 2-server staging configuration, the following files are used:

- installprops.txt
- StagingFedPBX2Server.tags
- StagingFedPBX2Server.xml

Figure 4 "Physical view of a 2-server staging configuration" (page 64) shows the physical view of a 2-server staging configuration:

Figure 4
Physical view of a 2-server staging configuration



The following parameters represent specific values in the 2-server tags file:

- hostnames for the Element Management server
- IP address of the Element Management server
- service logical IP address for the System Manager, Accounting Manager, and Session Manager
- name of the site where the System Manager and Database will be configured

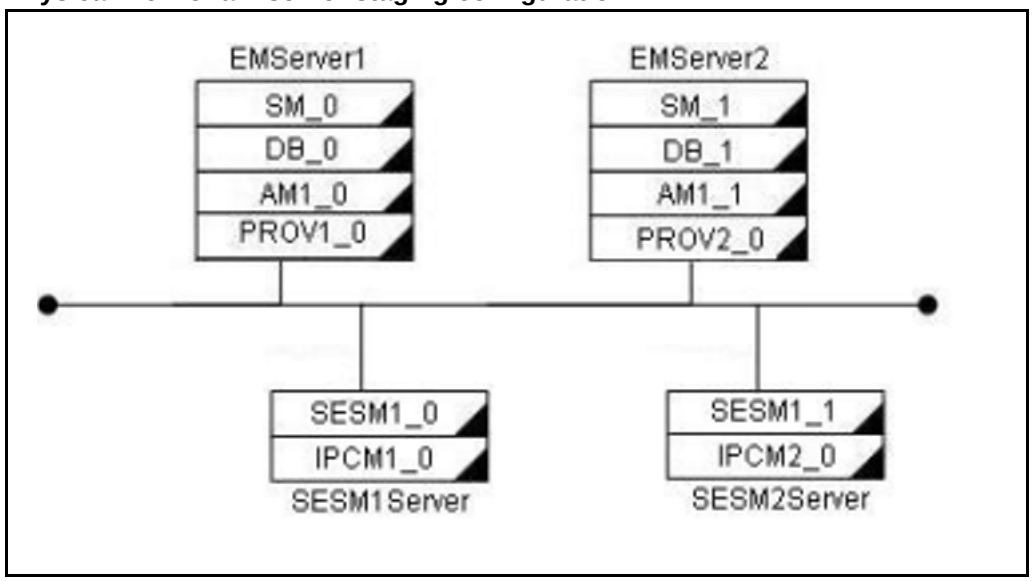
4-server staging files (medium system)

4-server staging configurations consist of a redundant installation where all core components are distributed across four servers. A 4-server staging configuration uses he following files:

- installprops.txt
- StagingFedPBX4Server.tags
- StagingFedPBX4Server.xml

Figure 5 "Physical view of a 4-server staging configuration" (page 65) shows the physical view of a 4-server staging configuration:

Figure 5
Physical view of a 4-server staging configuration



The following parameters represent specific values in the 4-server tags file:

- hostnames for the Element Management and Session Manager servers
- IP addresses of the Element Management and Session Manager servers
- service logical IP address for the System Manager, Accounting Manager, and Session Manager
- name of the site where the System Manager and Database will be configured

Installation properties file

All installation and upgrade scripts use the installation properties file (installprops.txt). The information in the properties file defines basic information for the configuration of the System Manager and the Database.

Attention: For increased security, do not store the parameters for db.username and db.password in the installprops.txt file. If these parameters are not specified in the installprops.txt file, the mcpInstall.pl script prompts for them. This information is then encrypted and written to another file that is used by all of the scripts in the /var/mcp/install directory.

For new system installations, the db.username parameters must satisfy the following restrictions:

- is between 6 and 30 characters (inclusive) in length
- starts with a letter [a-z] [A-Z]
- only contains the characters [0-9] [a-z] [A-Z] and "_"

For new system installations, the db.password parameters must satisfy the following restrictions:

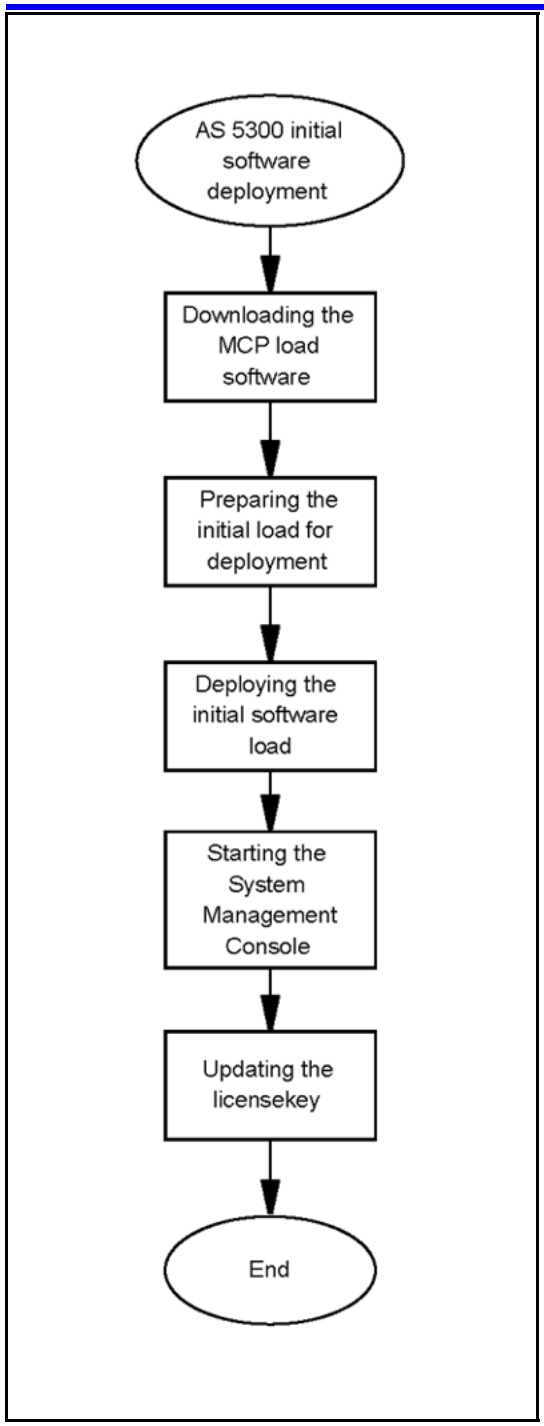
- is between 15 and 30 characters (inclusive) in length
- starts with a letter [a-z] [A-Z]
- contains at least two digits [0-9]
- contains at least two '_'
- does not contain the associated DB username
- only contains the characters [0-9] [a-z] [A-Z] and "_"

AS 5300 initial software deployment

This section contains information on deploying AS 5300 software.

AS 5300 initial software deployment procedures

The following work flow shows the sequence of procedures required to deploy AS 5300 software.



AS 5300 initial software deployment navigation

- "Downloading the MCP load software" (page 68)
- "Preparing the initial load for deployment" (page 68)
- "Deploying the initial software load" (page 70)

- "Starting the System Management Console" (page 71)
- "Updating the licensekey" (page 71)

Downloading the MCP load software

Install the MCP load software on the Primary Element Management server (EMS1).

Prerequisites

- You require the CD/DVD containing the MCP load software.
- You must be assigned the AA role (ntappadm).

Procedure Steps

Step	Action
1	Log on to the Primary Element Management server as the AA role (ntappadm).
2	Insert the CD/DVD containing the MCP load into the server CD/DVD ROM drive.
3	Copy the load file from the media: **mcpCopyFromCD** You are prompted for the AA (ntappadm) role user's password and to "Insert MCP CD #1... press Enter to continue". The load zip file is copied to the /var/mcp/loads directory.
4	Record the load name for future reference.

--End--

Preparing the initial load for deployment

Use this procedure to prepare the initial software load for deployment.

Prerequisites

- You must be assigned the AA role (ntappadm).

Procedure Steps

Step	Action
1	Log on to the Element Management server as the AA role (ntappadm).
2	Execute the script: **mcpInstallFirstLoad.pl**

The system displays a list of loads and prompts for a load selection.

3 Select the load for installation.

The system displays a list of staging files and prompts for user selection:

`Please enter number [1 to 10] of selection:`

4 From the list of staging files, enter the number of the staging file to use.

Attention: Select either StagingFedPBX2Server or StagingFedPBX4Server for AS 5300 deployments.

---

5 Change directory:

`cd var/mcp/install`

6 Run the script to populate the installProps file:

`populateInstallpropsFile.pl`

7 Enter the information as prompted.

Attention: Select X3550_Micro (small) or X3550_Standard (medium) configuration for AS 5300.

An "Installprops.txt Updated Successfully" message appears.

8 Run the script to populate the tags file:

`populateTagsFile.pl -t <tags_file>`

Attention: Select either StagingFedPBX4Server.tags or StagingFedPBX2Server.tags for AS 5300.

A "StagingFedPBX<x> Server.tags" success message appears.

9 Enter the information as prompted.

--End--

Deploying the initial software load

Use this procedure to deploy the initial AS 5300 software load.

Prerequisites

- You must be assigned the AA role (ntappadm).

Procedure Steps

Step	Action
1	Log on to the Element Management server as the AA role (ntappadm).
2	Change directory: **`cd /var/mcp/install`**
3	Deploy the system by issuing the following command: **`./mcpInstall.pl -i <importFile> -t <tagsFile> -1 <licenseKeyFile>`** The "Replication Process may take up to 45 minutes to complete...Deploying DB" message appears. Refer to "Deploying the initial software load job aid" (page 70) for a description of these parameters.

--End--

Deploying the initial software load job aid

Several files are required as parameters to execute the mcpInstall.pl script. For more information about script parameters and their descriptions, see Table 10 "Installation script parameter definitions" (page 70).

Table 10
Installation script parameter definitions

File	Definition
tagsFile	Import tags file (StagingFedPBX*Server.tags) containing IP address/tag and hostname/tag pairs. The file also contains sitename/tag value and other tags. The install/upgrade scripts use the tagsFile to replace tags with values in the given import XML file.
importFile	XML file (StagingFedPBX*Server.xml) containing server definitions, Network Element instance definitions, start-up critical configuration data, and default configuration data. This file is never manually modified by the user.
licenseKeyFile	The license key file to apply. This property (-l) is optional. The license key may also be applied after the installation. If it is to be used, the license key file should be copied to **`/var/mcp/install`** before running the script.

For more information, see *Nortel AS 5300 Planning and Engineering (NN42040-200)*.

Starting the System Management Console

The System Management Console uses Java Web Start technology and is launched from a Web browser.

Prerequisites

- The MCP software load has been deployed successfully.

Procedure Steps

Step	Action
1	Open a Web browser and enter the following URL: **`https://<SysMgr_IP_address>:12121`** The System Management Console starts.

--End--

Updating the licensekey

Use this procedure to update the licensekey. You do not need to perform this procedure if the licensekey was updated during the initial load deployment.

Prerequisites

- The licensekey code has been obtained from Keycode Retrieval Services (KRS).

Procedure Steps

Step	Action
1	Log on to the System Management console as admin. When prompted, enter the admin password.
2	From the Network Data and Mtc navigation tree, select **Licensekey node**. The Licensekey window appears.
3	Click **Edit** .
4	Using the **Select License key file** window, browse to the location of the licensekey file located on your local hard disk.
5	Open the file.
6	Click **Apply**.

7 If you do not see the new licensekey after applying, click **Refresh**.

After the licensekey is updated, you can deploy and start the Network Elements. For more information about deploying and starting Network Elements, see *Nortel AS 5300 Configuration (NN42040-500)*.

--End--

Patches

This section contains procedures for updating and maintaining the AS 5300 system through the installation of software patches and firmware updates.

Use patches to update the core MCP software load. Patches are available through Nortel's Regional Patch Selector service (RPS) or from the Nortel Web site.

Updates to the Oracle database and Linux operating system software are performed using Maintenance Releases. For more information about Maintenance Releases, see "Maintenance Releases" (page 85).

Navigation

- "Firmware upgrades" (page 98)
- "MCP core software load patch installation" (page 73)

MCP core software load patch installation

This section contains information about MCP core software load patches.

Attention: All Network Elements are taken out of service during the installation of patches. However, impact to call processing is minimal as Session Managers are configured with Hot Standby instances.

Prerequisites

- The system status must not indicate any critical alarms. Check the Alarm Bar of the System Management console for critical alarms and clear them before installing patches.
- Obtain the IP addresses of all System Managers in the system.
- You must be assigned to the AA role (ntsysadm).
- Ensure the system has a valid backup.

MCP core software load patch installation navigation

- "Obtaining the patches" (page 74)
- "Patching the database schemas and System Manager" (page 78)
- "Patching the Network Elements" (page 79)
- "Patching the Audio Codes gateway" (page 82)

Obtaining the patches

Obtain the MCP patches from the Nortel support site (http://support.nortel.com/) or have them pushed to the site using Nortel's Regional Patch Selector (RPS) service. The file containing the System Manager core upgrade is named according to the load name. For example, the load name for the archive MCP_11.0.1.0.zip is MCP_11.0.1.0. The System Manager creates patch load directories under /var/mcp/loads.

Patches can be in V, R, or S status. S status patches are patches that have been submitted to RPS but have not yet reached V or R status.

Use these procedures to obtain MCP core software load patches manually or enable the Regional Patch Selector notification.

Obtaining patches navigation

- "Retrieving V or R status MCP patches manually" (page 74)
- "Retrieving S status MCP patches manually" (page 75)
- "Enabling patch delivery for Regional Patch Selector (RPS) sites" (page 76)
- "Enabling patch delivery for non-Regional Patch Selector (RPS) sites" (page 78)

Prerequisites

- You need the nortelrps password.

Retrieving V or R status MCP patches manually

Procedure Steps

Step	Action
1	Download the patch from the Nortel Web site. MCP patches are posted to the Support & Training/Technical Support section of the Nortel support web site and grouped according to product name. To be successfully applied, downloaded patches must end with a .patch extension and be placed on the active System Manager.

Always download the most recent patch. Patches are cumulative, that is, each new patch contains all of the updates from the previous patches.

2 Confirm the name of the downloaded patch file is the same as the patch name in the Release Notes.

File names might be modified during download when using certain Internet browsers. If there is a difference, rename the downloaded file to the patch name stated in the Release Notes.

3 Using the nortelrps password, transfer the downloaded file to the server hosting the active System Manager using Secure FTP (SFTP).

Transfer the file to the following directory:

/var/mcp/dropbox

Example:

```
$ sftp nortelrps@<SysMgr_IP>
Connecting to <SysMgr_IP>...
Authorized uses only.  All activity may be
monitored and reported.
nortelrps@<SysMgr_IP>'s password:
sftp> put MCP_10.1.1.1.patch /var/mcp/dropbox
Uploading MCP_10.1.1.1.patch to /var/mcp/dropbox/
MCP_10.1.1.1.patch
MCP_10.1.1.1.patch
100% 23MB 1.7MB/s 00:14
sftp> quit
```

The file is transferred to the active System Manager.

--End--

Retrieving S status MCP patches manually

Procedure Steps

Step	Action
1	Launch a Web browser and go to the following URL: http://gsds.ca.nortel.com
2	Select **RPS > Query Tools > Generic > Getpath**.
3	Enter the **Product Line** and **Patch ID**. The product line used for MCP software is 'MCP'. You can put in the exact Patch ID, such as MCP_11.0.0.1, or you can use the '%' character as a wildcard to formulate queries. The query returns the Unix path location. Example:

```
Unix Path Location
/patches/MCP/MCP_11.0.0.1_2008-01-05-2156.patch
```

4 Using an FTP client, download the patch from the gsds.ca.nortel.com site.

The user ID is gsduser and the password is 4U2get!n. The path to the patch is the path returned by the Getpath web tool without the /patches prefix.

--End--

Enabling patch delivery for Regional Patch Selector (RPS) sites

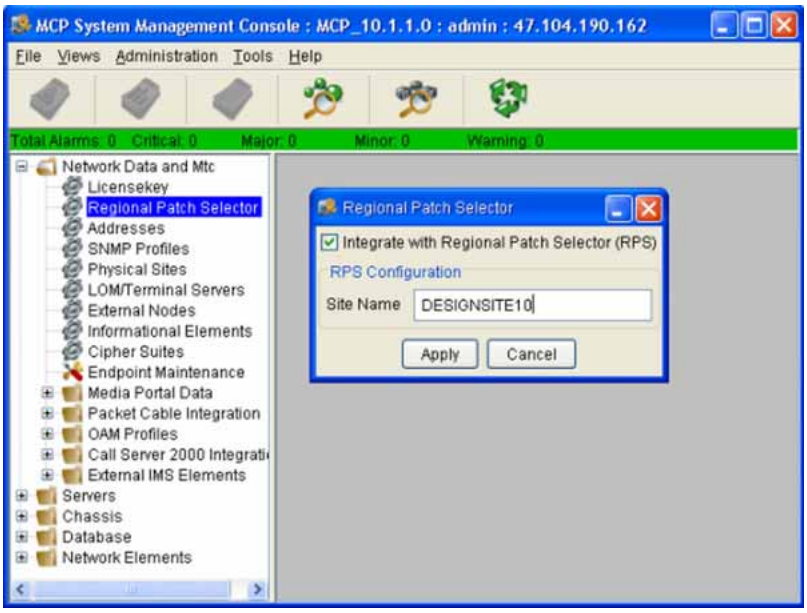
If the RPS service is enabled, the System Manager sends information about the software at the site to the RPS server, which sends an alarm notification when updates are available.

Prerequisites

- Your site has been configured with the Nortel Regional Patch Selector system.
- Enabling RPS integration requires knowledge of the site name that has been configured into the RPS system. The configured site name in the Regional Patch Selector application must match the configured site name in Nortel's Regional Patch Selector system.

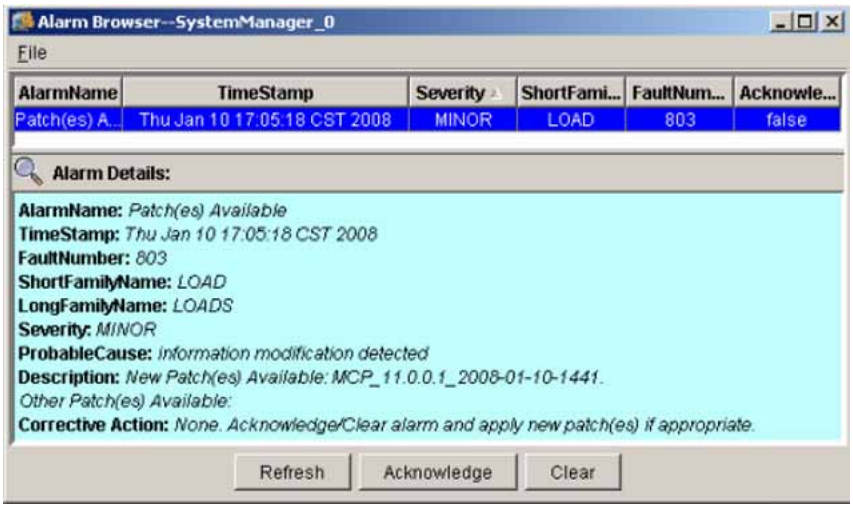
Procedure Steps

Step	Action
1	Launch the System Management console.
2	From the navigation menu, select **Network Data and Mtc > Regional Patch Selector**. The Regional Patch Selector window appears.
3	Select the **Integrate with Regional Patch Selector (RPS)** check box and enter the Site Name using all caps.



When you enable the RPS, an inform file is created in the var/mcp/dropbox directory. When a patch has been successfully received and prepared for application by the System Manager, a minor alarm is raised. The alarm indicates the name of the patch that is ready for application.

4 Open the **Alarm Browser** window to view the patch details.



--End--

Enabling patch delivery for non-Regional Patch Selector (RPS) sites

Use this procedure to create an inform file for RPS patch notifications. This procedure is intended for sites that are not registered with Nortel's RPS service.

Procedure Steps

Step	Action
1	Launch the System Management console.
2	From the navigation menu, select **Network Data and Mtc > Regional Patch Selector**. The **Regional Patch Selector** window appears.
3	In the **Regional Patch Selector** window, select the **Integrate with Regional Patch Selector (RPS)** check box.
4	Create and enter a Site Name.
5	Click **Apply**. An inform file is created in the \var\mcp\dropbox directory.
6	Launch a browser and log in to the Nortel Web site (http://www.nortel.com).
7	Navigate to **Support and Training > Online Self Service > Patch Audit Tool** The Patch Audit Web page appears.
8	Follow the on-screen instructions to upload the newly created inform file. After you submit a valid inform file, a secured link containing the patch audit results is automatically generated and sent to the specified e-mail address. Use this information to download patches manually, as described in "Obtaining the patches" (page 74).

--End--

Patching the database schemas and System Manager

Use this procedure to patch the database schemas and System Manager. You can patch the System Manager without causing a service outage to users, but all active MCP System Management Consoles are shut down during the patch installation process.

Procedure Steps

Step	Action
1	Log on to the primary System Manager as the AA role (ntappadm) using SSH.
2	Change directory: **`cd /var/mcp/install`**
3	Run the patching script: **`./mcpPatch.pl`** The progress of the patching process displays. The database is patched first, followed by the System Manager. When the database and System Manager are patched, the System Manager restarts.
4	Log on to the MCP System Management Console. The System Manager is started and in the Active state, running on the desired load.

--End--

Patching the Network Elements

Use this procedure to patch the Network Elements. If a Network Element is supported in a fault tolerant mode such as a Session Manager, one instance will be in active state and the other one will be in hot standby state. When the active instance is shut down to be patched, the standby instance becomes active to prevent loss of service.

For non-fault tolerant Network Elements, such as Provisioning Manager, the service provided by the Network Element is impacted during the patch.

For more information about Network Elements and their associated service impacts during patch upgrades, see Table 11 "Service impacts to Network Elements during patching" (page 79).

Table 11
Service impacts to Network Elements during patching

Network Element	Client impact	Subscriber impact
Accounting Managers	When the accounting manager is stopped, billing information continues to be cached on the session manager servers as disk space allows. After the Accounting Manager is back in service, the cached information	None.

Network Element	Client impact	Subscriber impact
	is transferred to the Accounting Manager and no information is lost.	
Provisioning Managers	The Provisioning Manager is not deployed with redundant instances. There is no user access to the Provisioning Client during upgrade.	While a Provisioning Manager is being patched, users from the Domain URL corresponding to the Provisioning Manager being patched will be able to login and make calls; however, downloading of the service package is not possible. Once the Provisioning Manager is patched successfully, subsequent logins will be successful. If the optional Personal Agent Manager is configured, there is no impact when patching the Provisioning Manager. If Personal Agent services are provided by the Provisioning Manager that is being patched, the subscriber is not able to access the Personal Agent until the patching process is completed. Subscribers cannot perform click-to-call dialing from the PC Client until the patching process is completed.
Personal Agent Managers	The Personal Agent Manager is not deployed with redundant instances. There is no user access to the Personal Agent during upgrade.	Subscribers cannot perform click to call dialing from the PC Client.
Session Managers	If there are redundant instances of the Session Manager, one instance will be in active state and one will be in hot standby state.	If there is only one configured Session Manager Instance, no new calls will be allowed on system until the Session Manager instance is active again.
IP Client Managers	More than one IPCM element can be configured on the system. Each IPCM will contain only one instance. During upgrade, the IPCM is not accessible.	If there is only one IPCM on the system, Nortel Networks IP 2002/2004 phones cannot connect and all service is lost.

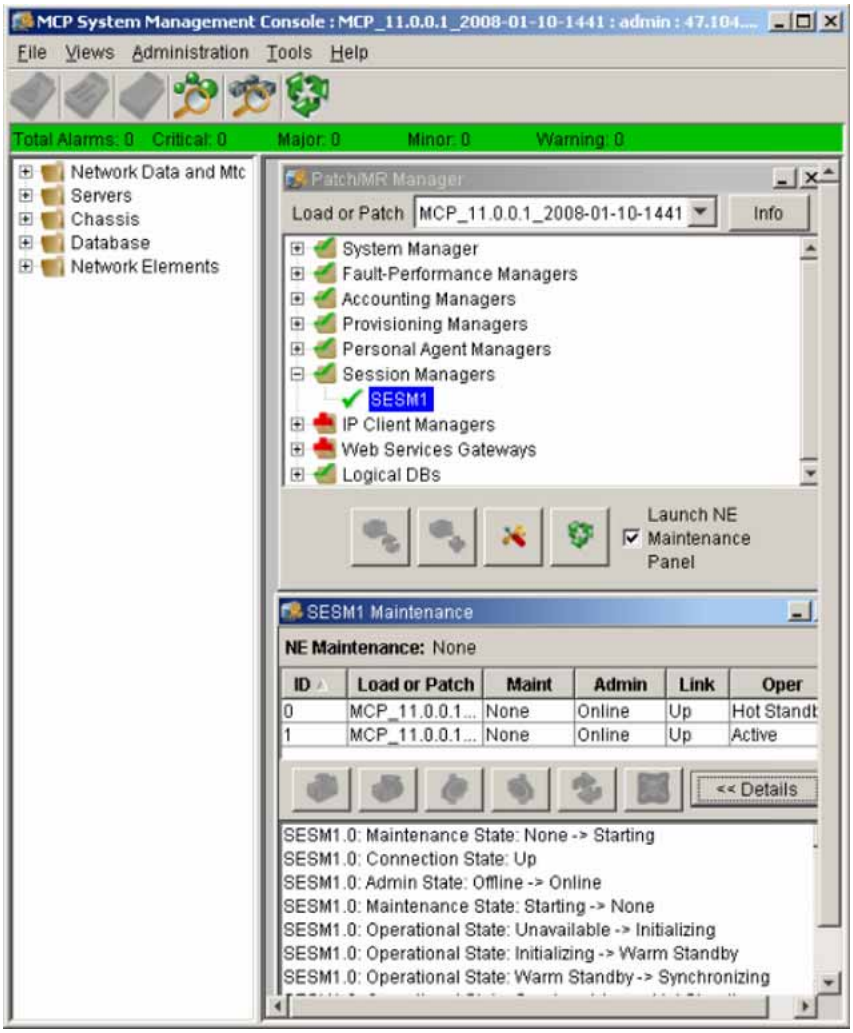
Attention: Patch the Network Elements in the order specified in the procedure. If a particular Network Element is not configured on the system, you can skip it and proceed to the next one.

Prerequisites

- Network Elements are configured on the system.
- You understand the service issues associated with patching Network Elements.
- You must be assigned to the AA role (ntappadm).

Procedure Steps

Step	Action
1	From the System Management console menu, select **Tools > Patch/MR Manager**. The Patch/MR Manager window appears.
2	From the **Load or Patch** list menu, choose the load patch being applied. The Load Manager window appears.
3	In the Load Manager window navigation tree, expand a Network Element folder.
4	From the expanded Network Element folder, select the element to be patched in the following order: • Fault Performance Managers • Accounting Managers • Provisioning Managers • Personal Agent Managers • Session Managers • IP Client Managers
5	On the maintenance panel, click **Patch**. The NE Maintenance Panel window appears. From this window you can monitor the patch installation.



6 Repeat steps 3 to 5 for each Network Element displayed in the **Patch/MR** navigation tree.

The Instance window for the Network Element shows one or more instances. If there is one instance, it is in the active state. Additional instances, if present, are in the offline state. Network Elements supporting Cold Standby or Hot Standby mode display their supported standby mode.

The load name listed for each instance is the patched load.

--End--

Patching the Audio Codes gateway

Audio Codes gateway loads can be delivered using an MCP core software load patch. Use this procedure to patch the Audio Codes gateway load.

Prerequisites

- The database schemas and System Manager have been patched.

Procedure Steps

Step	Action
1	The procedure for patching the Audio Codes gateway load using the MCP core software load patch is the same as upgrading the Audio Codes gateway using a Maintenance Release. See "Upgrading the AudioCodes gateway" (page 92).

--End--

Maintenance Releases

This section describes information and procedures about installing Maintenance Releases. Use Maintenance Releases to update the Linux operating system, Oracle database software, and the core MCP software load.

Maintenance Releases are delivered on CD/DVD, Regional Patch Selector service (RPS), or downloaded from the Nortel Technical Support Web site. Platform Maintenance Releases are delivered on CD/DVD only.

Attention: The MCP Installation and Release Notes must be read prior to upgrading or patching the system. These notes may indicate that specific updates are required before the Maintenance Release can be applied. Apply all required updates before applying the Maintenance Release.

Maintenance Releases navigation

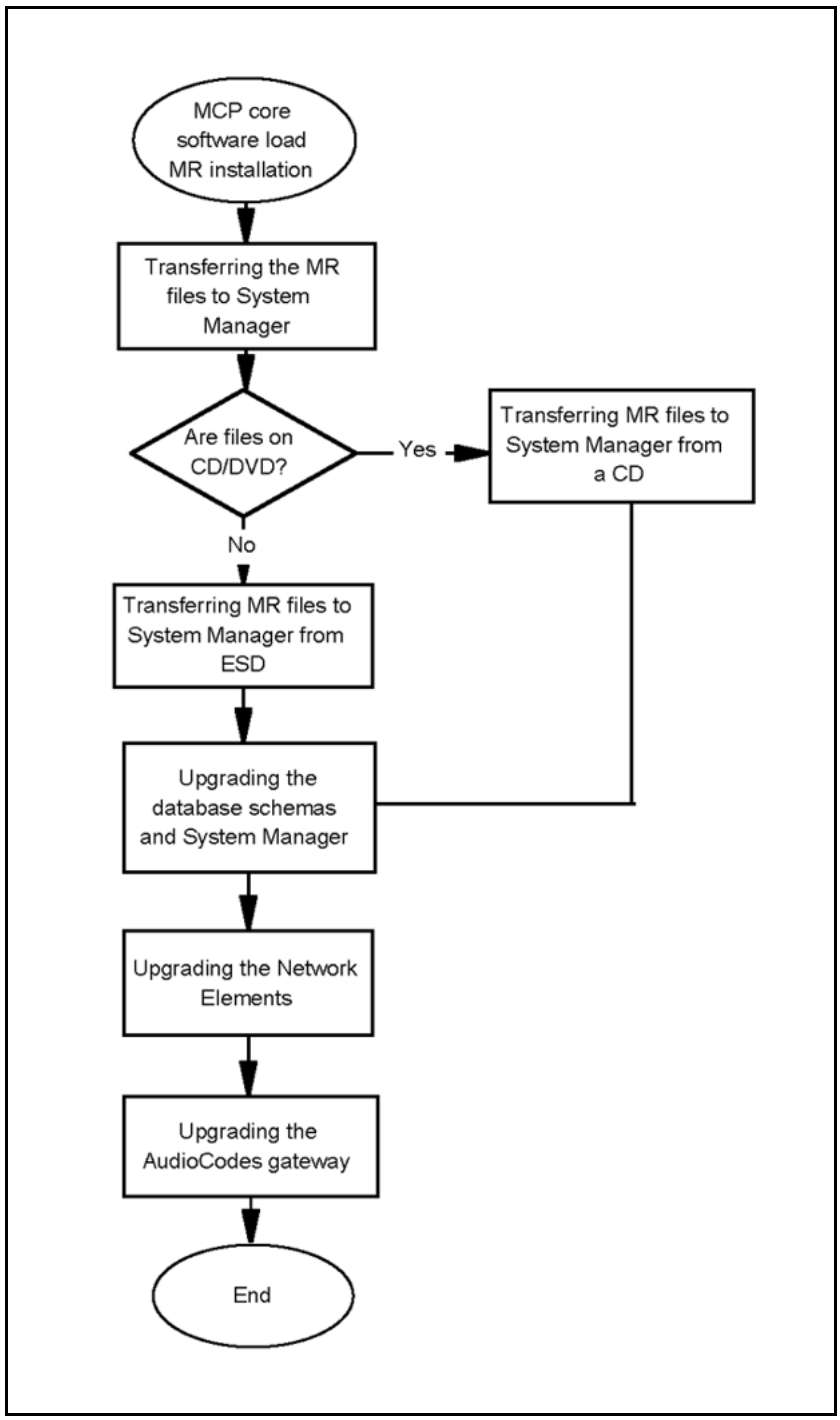
- "MCP core software load Maintenance Release installation" (page 85)
- "Applying the Linux Maintenance Release " (page 92)
- "Applying the Oracle Maintenance Release" (page 95)
- "Installing the online Help files" (page 97)
- "Firmware upgrades" (page 98)
- "Multimedia PC Client upgrade" (page 109)

MCP core software load Maintenance Release installation

This section describes procedures for installing the MCP core software load Maintenance Release.

MCP core software load Maintenance Release installation procedures

This work flow shows the procedures required to install the MCP core software load Maintenance Release.



MCP core software load Maintenance Release installation Navigation

- "Transferring the Maintenance Release files to System Manager" (page 87)
- "Upgrading the database schemas and System Manager" (page 89)

- "Upgrading the Network Elements" (page 90)
- "Upgrading the AudioCodes gateway" (page 92)

Transferring the Maintenance Release files to System Manager

Delivery options for the MCP core software load Maintenance Release are as follows:

- CD/DVD containing the Maintenance Release files
- Electronic Software Delivery (ESD)

The following procedures describe how to transfer the Maintenance Release files to System Manager for each delivery option.

Navigation

- "Transferring Maintenance Release files to System Manager from a CD" (page 87)
- "Transferring Maintenance Release files to System Manager from Electronic Software Delivery (ESD)" (page 88)

Transferring Maintenance Release files to System Manager from a CD

Procedure Steps

Step	Action
1	Place the CD containing the MCP core load file into the CD-ROM tray of the primary System Manager. This load will be used to upgrade the majority of the system.
2	Log on to the System Manager as the AA role (ntappadm) using SSH.
3	Change directory: **`cd /usr/local/bin`**
4	Copy the files from CD: **`sudo ./mcpCopyFromCD.pl -m manifest-all`** The MCP 11.0 load is copied to the /var/mcp/loads directory. The MCP 11.0 online Help zip files are copied to the /var/mcp/media directory. The ASU related files are copied to the /var/mcp/media/PC-Client_ASU_6.0.XXX directory.
5	Using a new SSH session, log on to the System Manager as the AA role (ntappadm).
6	Delete older MCP loads:

rm –Rf <old_load_directory>

Attention: Use extreme caution when using rm -Rf commands. Entering a typo can cause an entire file system to be removed without confirmation if you have the proper user privileges. For example, entering a command such as rm -Rf / mcp/loads (with an extra space after the first forward slash) can remove the entire directory tree.

---

7 Exit from the SSH sessions for the SSA role (ntsysadm) and AA role (ntappadm) using Exit.

8 Remove the CD-ROM from CD tray.

--End--

Transferring Maintenance Release files to System Manager from Electronic Software Delivery (ESD)

Procedure Steps

Step	Action
1	If it does not already exist, create the /var/mcp/esd_files directory on the System Manager server. • Log on to the System Manager server as the AA role (ntappadm). • Check for the directory: **ls /var/mcp/esd_files** • If the directory does not exist, create it: **mkdir /var/mcp/esd_files**
2	Change directory: **cd /var/mcp/esd_files**
3	Use an FTP client to securely transfer the ESD file to the System Manager server.
4	Log on to the System Manager as the AA role (ntappadm) using SSH.
5	Change directory: **cd /usr/local/bin**
6	Extract and copy the contents of the ESD file. **sudo ./mcpCopyFromESD.pl**
7	Copy the online Help files.

sudo ./mcpCopyFromESD.pl -m manifest-online

8 Copy the ASU files.

sudo ./mcpCopyFromESD.pl -m manifest-asu-pc

9 Remove the ISO image file from the file system.

rm /var/mcp/esd_files/<filename>

10 Delete older MCP loads.

Nortel recommends to only keep the current MCP software load and the load that the system will be upgraded to in the /var/mcp/loads directory to free up disk space.

cd /var/mcp/loads

rm –Rf <old_load_directory>

Attention: Use extreme caution when using rm -Rf commands. Entering a typo can cause an entire file system to be removed without confirmation if you have the proper user privileges. For example, entering a command such as rm -Rf / mcp/loads (with an extra space after the first forward slash) can remove the entire directory tree.

---

11 Repeat this procedure for the secondary System Manager.

--End--

Upgrading the database schemas and System Manager

You can upgrade the System Manager without causing a service outage to users, but all active MCP System Management Consoles are shut down during the upgrade process.

Prerequisites

- The new MR load.zip file is in the /var/mcp/loads directory.

Procedure Steps

Step	Action
1	Log on to the primary System Manager as the AA role (ntappadm) using SSH.
2	Change directory: **cd /var/mcp/install**
3	Run the Maintenance Release upgrade script:

```
./mcpUpgradeMR.pl
```

4 When prompted, select the MR load from the list.

The database is upgraded first, followed by the System Manager. The upgrade progress outputs to the screen.

5 Start the MCP System Management Console.

--End--

Upgrading the Network Elements

Use this procedure to apply the Maintenance Release upgrades to the Network Elements.

Attention: Upgrade the Network Elements in the specified order.

Prerequisites

- A network element is configured.
- You are logged into the MCP System Management Console.

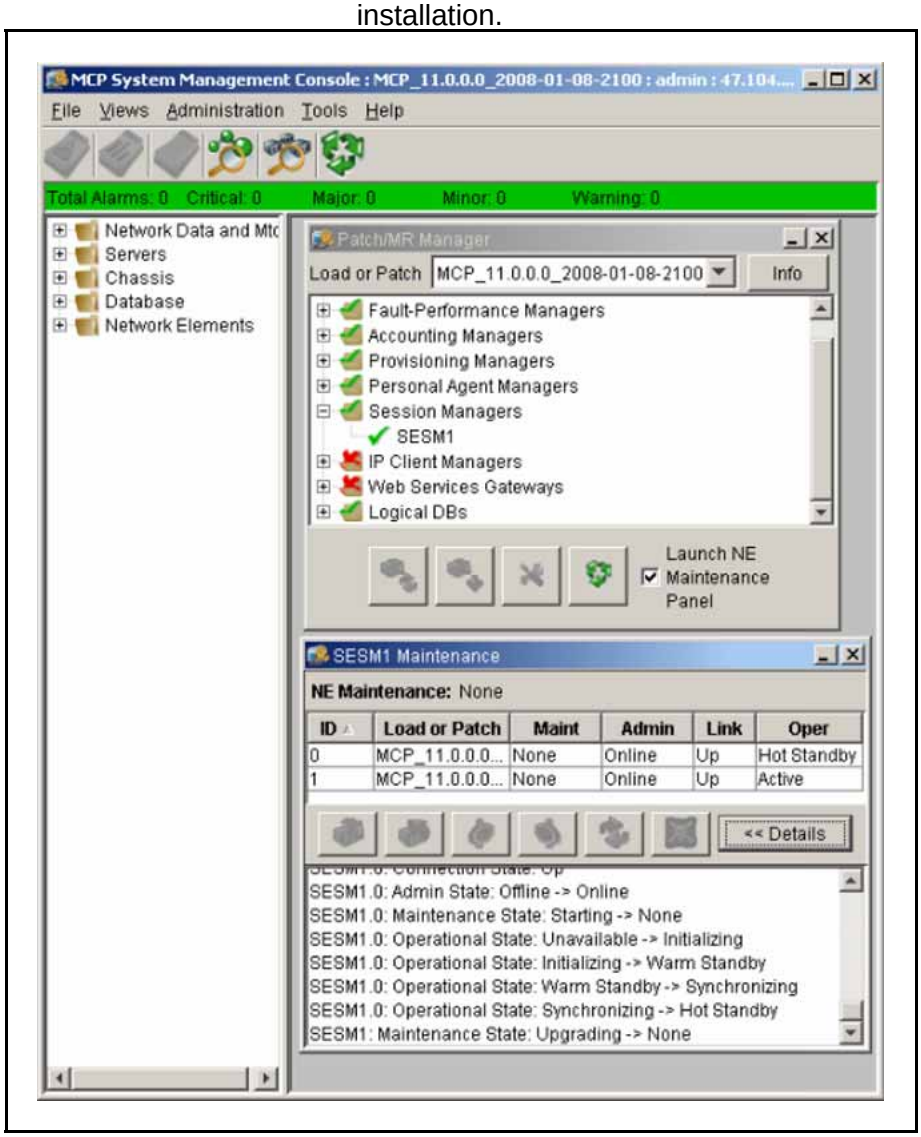
Procedure Steps

Step	Action
1	From the System Management console menu, select **Tools > Patch/MR Manager**. The Patch/MR Manager window appears.
2	From the **Load or Patch** list menu, choose the Maintenance Release to install. The Patch/MR Manager window displays the Network Elements requiring an upgrade from the selected Maintenance Release.
3	Expand a Network Element folder. Patch the Network Elements in the following order: • Fault Performance Managers • Accounting Managers • Provisioning Managers • Personal Agent Managers • Session Managers • IP Client Managers

4 Select the Network Element to be patched.

5 On the maintenance panel, click the **Upgrade** button.

The NE Maintenance Panel window appears to monitor the patch installation.



6 Repeat steps 3 to 5 for each Network Element displayed in the **Patch/MR** navigation tree.

The Instance window for the Network Element shows one or more instances. If there is one instance, it is in the active state. Additional instances, if present, are in the offline state. Network Elements supporting Cold Standby mode or Hot Standby mode display their supported standby mode.

The load name listed for each instance is the patched load.

--End--

Upgrading the AudioCodes gateway

Use this procedure to apply the Maintenance Release upgrades to the AudioCodes gateway. The only supported method for the AS5300 AudioCodes deployment of loads and upgrades must be done by the SunFire V-215 EMS servers.

Attention: The AudioCodes gateway does not have the capability to switch its activity to another instance. Upgrading an AudioCodes gateway causes service loss and all calls connected through that gateway are dropped.

Procedure Steps

Step	Action
1	From the EMS **MG Tree** pane, select the AudioCodes gateway to be upgraded. The **Info** pane and the **Status** pane now display the AudioCodes gateway.
2	From the **Info** pane, select**Software Upgrade**. The **Files Manager** screen is displayed.
3	Select the appropriate software (CMP) to be downloaded and click **OK** in the **Files Manager** screen. A **Question** screen is displayed.
4	From the **Question** screen, select**System Reset Upgrade** and click **Yes**. The selected software (CMP) is downloaded to the AudioCodes gateway, and the AudioCodes gateway is reset.

--End--

Applying the Linux Maintenance Release

Use this procedure to apply the Maintenance Release for the Linux operating system.

Prerequisites

- Linux is installed on the system.

Procedure Steps

Step	Action
1	Load the CD containing the MCP Core Linux platform Maintenance Release into the CD-ROM tray of the primary System Manager.
2	Log on to the System Manager as the ntsysgrp role (ntsysadm) using SSH.
3	Change to root user: **`su -`**
4	Change directory: **`cd /var/mcp/os/install/images`** (The patching script creates this directory. Therefore, this directory will not exist on systems that have not been patched.)
5	Delete existing files: **`rm –rf *`**
6	Copy the installation files from the CD: **`mcpCopyFromCD.pl`** The following files are copied:

File	Description
mcp_core_linux_*.iso	Container for the installation files used for the platform patching. Platform patch image files are cumulative; they contain all previously released patches.
mcp_core_linux_*.relnotes.txt	Release notes containing a description of the patch files, how to apply them, and the release level to which the system is updated.
mcp_core_linux_*.iso.md5sum.txt	Checksum file provided for patch file integrity validation.

Step	Action
7	Exit the SSH session for users with ntsysgrp and ntappgrp roles and remove the CD from the CD-ROM tray.

Attention: If you are applying a platform patch to a server with only the platform OS installed, skip steps 8 through 13.

Attention: This is a major package upgrade. It upgrades the kernel as well as many other base level packages. Stop all MCP components on the server being patched prior to patch application.

---

8 Using the System Management console on the server being patched, stop all components except the System Manager and database.

9 Log on to the server as the ntappgrp (ntappadm) role.

10 Change directory:

`/var/mcp/install`

11 Stop the System Manager:

`./smStop.pl`

12 Log on to the system as the ntsysgrp role (ntsysadm).

13 Change user permissions to root:

`su - root`

14 (Optional) If the target server is a database server and Oracle has not been stopped, stop the Oracle database:

`/etc/init.d/dbora stop`

15 Start the patch tool:

`patchPlatform.pl`

16 Select option **2** to use an image from the local file system.

The system displays the following prompt:

`Please enter the name of the directory containing the ISO image file`

17 Enter the path where the image file is located:

`/var/mcp/os/install/images`

The list of image files displays.

18 From the list of image files, select the number for the Maintenance Release image.

19 Select option **1** to install all applicable patches.

20 Reply **Yes** to the prompt.

The Linux operating system patches are applied.

If the script fails with an error, re-execute the script. If it still fails, contact your next level of support to resolve the issue.

21 When the patch applications are complete, select option **8** to quit. If prompted for acknowledgement, reply **Y**.

22 Reboot the server:

```
reboot
```

Attention: If you are applying a platform patch to a server with only the platform OS installed, skip steps 23 through 27.

---

23 Log on to the patched server as the DBA role (ntdbadm).

24 Do one of the following:

If this is not a database server, use the System Management console to start the Network Elements. This concludes the procedure.

OR

If this is a database server, continue with the next steps.

25 Change directory:

```
cd /opt/mcp/db/bin
```

26 Re-link Oracle:

```
./relinkOracle.pl
```

If it is active, Oracle shuts down. It then re-links and restarts.

27 Use the System Management console to start the Network Elements.

--End--

Applying the Oracle Maintenance Release

Use this procedure to apply the Maintenance Release patch for the Oracle database software. Apply the Maintenance Release patch to both the primary and secondary database servers.

Attention: When applying the Oracle patches, the install script can shutdown and restart the database automatically, resulting in a few minutes that the database is unavailable. Schedule the upgrade accordingly.

Attention: The time it takes to patch the Oracle Database varies from patch to patch. It can take anywhere from a few minutes up to an hour.

Prerequisites

- You must have SSA (nysysadm) permissions.

Procedure Steps

Step	Action
1	Load the CD containing the Oracle patch into the CD-ROM drive of the primary database server.
2	Log on as the SSA role (ntsysadm).
3	Change user permissions: **`su - root`**
4	Copy the installation files: **`./mcpCopyFromCD.pl`** The patch files are copied from the CD to the following local directory: **`/var/mcp/db/install`**
5	Change directory: **`cd /var/mcp/db/install`**
6	Extract the patch files: **`tar xvf patches.tar`**
7	Change directory: **`cd patches`**
8	Verify the current working directory: **`pwd`** Confirm the working directory is as follows: **`var/mcp/db/install/patches`**
9	Run the patch installation script: **`./patchDB.pl`** Note: The following two errors can be observed during the application of the patch. • CREATE SEQUENCE generator$_s START WITH 1 *

ERROR at line 1: ORA-00955: name is already used by an existing object

- DROP PACKAGE sys.dbms_apply_user_agent
*
ERROR at line 1:
ORA-04043: object DBMS_APPLY_USER_AGENT does not exist

These errors do not affect service and can be ignored.

The Oracle Maintenance Release patches are installed.

10 Confirm the version matches the version described in the Release Notes:

`cat /opt/mcp/db/data/version`

11 Repeat this procedure for the secondary database server.

--End--

Installing the online Help files

Online Help files for the Provisioning Manager/Personal Agent are not included with the MCP core software load but are contained on a separate CD.

Perform this procedure on both Element Manager servers.

Prerequisites

- You must be assigned to the SSA role (ntsysadm).

Procedure Steps

Step	Action
1	Load the MCP_11.0.X.X CD in the CD-ROM tray.
2	Log on to the Element Manager server as the SSA role (ntsysadm).
3	Change directory: **`cd /usr/local/bin`**
4	Copy the Online Help files from the CD: **`sudo ./mcpCopyFromCD.pl –m manifest-online`** The Online Help zip files are copied to the /var/mcp/media directory.
5	Log on to the Provisioning Manager/Personal Agent server as the AA role (ntappadm).

6 Change directory:

cd /var/mcp/run/MCP_11.0/<prov>_0/bin

7 Transfer the file to the Provisioning Manager server using the sftp command:

sftp <prov_mgr_ip>

8 Enter the AA role (ntappadm) password.

9 Change directory:

cd /var/mcp/media

10 Copy the file from the remote server to the local machine:

get MCP-OnlineHelp_11.0.X.X_<date-time>.zip

11 Exit the session:

exit

12 Log on to the Provisioning Manager/Personal Agent server as the nortel user.

13 Change directory:

cd /var/mcp/run/MCP_11.0/<prov>_0/bin

14 Extract the Online Help files:

./installHelp.pl –z <OnlineHelpFilename>.zip

The updated Online Help Files are accessible from the Provisioning Manager/Personal Agent client and the PC Client.

15 Repeat this procedure on the other Element Manager server, which hosts the other Provisioning Manager.

--End--

Firmware upgrades

This section contains procedures for upgrading the AS 5300 firmware components. Uprade the firmware when the current version does not match the firmware version available on the upgrade CD.

Use these procedures to do the following:

- determine the currently installed firmware version
- compare the installed version to the version on the upgrade CD
- if required, install the firmware upgrade

Firmware updates navigation

- "Determining the current firmware version" (page 99)
- "Comparing the firmware versions to determine upgrade requirements" (page 101)
- "Installing the firmware upgrades" (page 102)

Determining the current firmware version

Use these procedures to determine the currently installed firmware version.

Determining the current firmware version navigation

- "Querying the BIOS, Diagnostics, RSA-II card, and Baseboard Management Controller firmware" (page 99)
- "Querying the Network Interface Card firmware" (page 100)
- "Querying the hard drive firmware" (page 100)
- "Querying the ServeRaid firmware" (page 101)

Querying the BIOS, Diagnostics, RSA-II card, and Baseboard Management Controller firmware

Use this procedure to determine the current firmware versions of the BIOS, RSA-II card, and Baseboard Management Controller (BMC).

Procedure Steps

Step	Action
1	From a Web browser, log on to the Remote Console (RSA-II card IP address) and start a new session.
2	From the navigation menu, choose **Monitors**.
3	Click **Vital Product Data.** The currently installed firmware information for the BIOS, Diagnostics, RSA-II card, and BMC appears.

--End--

Querying the BIOS, Diagnostics, RSA-II card, and Baseboard Management Controller firmware job aid

BIOS == POST/BIOS VPD
Diagnostics == Diagnostics VPD
RSA-II card == ASM VPD, includes Application and Boot ROM firmware
BMC == Integrated System Management Processor VPD

Querying the Network Interface Card firmware

Use this procedure to determine the current Network Interface Card (NIC) firmware version.

Prerequisites

- You must be assigned to the SSA role (ntsysadm)

Procedure Steps

Step	Action
1	Log on to the system as the SSA role (ntsysadm).
2	Run the following command: **`sudo ethtool –i <ethernet_device>`** The system displays the device properties, including the currently installed firmware version. **`firmware-version: x.x.x`**

--End--

Variable definitions

Variable	Value
ethernet_device	eth0 or eth1

Querying the hard drive firmware

Use this procedure to determine the current hard drive firmware version.

Prerequisites

- You must be assigned to the SSA role (ntsysadm)

Procedure Steps

Step	Action
1	Log on to the server as the SSA role (ntsysadm).
2	Run the following command: **`arcconf GETCONFIG 1 pd`** The system displays the physical device information for each installed hard drive. The firmware version is included in the list of information for each device. **`Firmware : xxxx`**

--End--

Querying the ServeRaid firmware

Use this procedure to determine the current ServeRAID firmware version.

Prerequisites

- You must be assigned to the SSA role (ntsysadm)

Procedure Steps

Step	Action
1	Log on to the server as the SSA role (ntsysadm).
2	Run the following command: **`arcconf GETVERSION`** The system displays information about the installed controllers. The firmware version is included in the list of controller information. **`Firmware : x.x-x (xxxxx)`**

--End--

Comparing the firmware versions to determine upgrade requirements

Firmware upgrades are necessary when the installed firmware versions differ from the current firmware baselines. Use this procedure to compare the currently installed firmware versions to the baseline versions.

Attention: When determining if a firmware upgrade is required, ensure that you are comparing firmware version information for the same component.

Procedure Steps

Step	Action
1	Refer to the MR notes for a list mapping each firmware CD title to its firmware version number.
2	Compare the firmware version listed in the text file for each component with the currently installed firmware version for that component. If the versions match, no upgrade is necessary.

If the versions do not match, upgrade the firmware.

--End--

Installing the firmware upgrades

Use these procedures to install firmware upgrades.

Installing the firmware updates navigation

- "Installing BIOS firmware upgrades" (page 102)
- "Installing Base Management Controller (BMC) firmware upgrades" (page 103)
- "Installing diagnostics firmware upgrades" (page 104)
- "Installing RSA-II card firmware upgrades" (page 105)
- "Installing NIC firmware upgrades" (page 106)
- "Installing hard drive firmware upgrades" (page 106)
- "Installing ServeRAID firmware upgrades" (page 107)

Installing BIOS firmware upgrades

Use this procedure to install upgrades to the BIOS firmware. This procedure requires the reboot of the server.

Prerequisites

- You must be assigned to the SSA role (ntsysadm).
- You must have the CD containing the BIOS firmware upgrade file.

Procedure Steps

Step	Action
1	Load the BIOS firmware upgrade CD into the CD-ROM drive.
2	Log on to the server as the SSA role (ntsysadm).
3	Reboot the server. **`sudo reboot`**
4	If the operating system has been installed, change the boot sequence so that the CD-ROM is the primary boot device by doing the following: • When the BIOS information appears, press **F12** to select the boot sequence. • Select **CD-ROM** as the primary boot device. Otherwise, wait for the server to reboot.

	The IBM Flash Update Utility appears.
5	Select **1** to update the BIOS.
6	Reply **Y** to move the current image to the backup location within the Flash ROM.
7	Reply **N** to update the serial number.
8	Reply **N** to update the Type/Model
9	Reply **N** to update the Asset Tag Number.
10	Reply **N** to save the current image to disk.
11	Enter **1** to update the firmware. The system displays the following message: `Flashing BIOS. May take up to 30 seconds.`
12	Remove the CD from the CD-ROM drive.
13	Press **Enter** to reboot.

--End--

Installing Base Management Controller (BMC) firmware upgrades

Use this procedure to install upgrades to the BMC firmware. This procedure requires the reboot of the server.

Prerequisites

- You must be assigned to the SSA role (ntsysadm).
- You must have the CD containing the BMC firmware upgrade file.

Procedure Steps

Step	Action
1	Load the BMC firmware upgrade CD into the CD-ROM drive.
2	Log on to the server as the SSA role (ntsysadm).
3	Reboot the server. **`sudo reboot`**
4	If the operating system has been installed, change the boot sequence so that the CD-ROM is the primary boot device by doing the following: • When the BIOS information appears, press **F12** to select the boot sequence. • Select **CD-ROM** as the primary boot device. Otherwise, wait for the server to reboot.

If the firmware is out of date, the system flashes the firmware.

5 When the upgrade completes, remove the CD from the CD-ROM drive.

6 Use the ASM Remote Control to restart the server and boot to the operating system:

Server > Tasks > Server Restart

--End--

Installing diagnostics firmware upgrades

Use this procedure to upgrade the diagnostics firmware. This procedure requires the reboot of the server.

Prerequisites

- You must be assigned to the SSA role (ntsysadm).
- You must have the CD containing the diagnostics firmware upgrade file.

Procedure Steps

Step	Action
1	Load the diagnostics firmware upgrade CD into the CD-ROM drive.
2	Log on to the server as the SSA role (ntsysadm).
3	Reboot the server. **`sudo reboot`**
4	If the operating system has been installed, change the boot sequence so that the CD-ROM is the primary boot device by doing the following: • When the BIOS information appears, press **F12** to select the boot sequence. • Select **CD-ROM** as the primary boot device. Otherwise, wait for the server to reboot. The IBM Flash Update Utility automatically flashes the firmware and reboots the system when it completes.

Attention: It may take up to 5 minutes for the firmware to be flashed. Do not power off or restart system.

5	When the server reboot begins, remove the CD from the CD-ROM drive.

--End--

Installing RSA-II card firmware upgrades

Use this procedure to upgrade the firmware of the RSA-II card. Server reboot is not required for this upgrade.

Prerequisites

- You must have the CD containing the RSA-II card firmware upgrade file (Platform firmware upgrade CD).
- A PC is required to access RSA-II web interface and load firmware.

Procedure Steps

Step	Action
1	Load the Platform firmware upgrade CD into the CD-ROM drive.
2	Start a Web browser and log on to the ASM Remote Control (RSA-II card).
3	From the navigation menu, select **Tasks > Firmware Update**.
4	Browse to the directory where the update file is stored. **\\x3550\RSA**
5	Select the paetbrus.pkt file and click **Update**.
6	When the file transfer completes, click **Continue**. The RSA-II card Boot ROM firmware is applied.
7	From the navigation menu, select **Firmware Update**.
8	Browse to the directory where the update file is stored. **\\x3550\RSA**
9	Select the paetmnus.pkt file and click **Update**.
10	When the file transfer completes, click **Continue**. The RSA-II care Main Application firmware update is applied.
11	From the navigation menu, select **Restart ASM**.
12	Click **Restart**.
13	Click **OK**.

--End--

Installing NIC firmware upgrades

Use this procedure to install NIC firmware upgrades. This procedure requires the reboot of the server.

Prerequisites

- You must be assigned to the SSA role (ntsysadm).
- You must have the CD containing the NIC firmware upgrade file.

Procedure Steps

Step	Action
1	Load the NIC firmware upgrade CD into the CD-ROM drive.
2	Log on to the server as the SSA role (ntsysadm).
3	Reboot the server. **`sudo reboot`**
4	If the operating system has been installed, change the boot sequence so that the CD-ROM is the primary boot device by doing the following: • When the BIOS information appears, press **F12** to select the boot sequence. • Select **CD-ROM** as the primary boot device. Otherwise, wait for the server to reboot.
5	At the c:\update> prompt, type **update 7978**. The NIC firmware patch is applied.
6	Remove the CD from the CD-ROM drive.
7	Use the ASM Remote Control to restart the server and boot to the operating system: **Server > Tasks > Server Restart**

--End--

Installing hard drive firmware upgrades

Use this procedure to install hard drive firmware upgrades. This procedure requires the reboot of the server.

Prerequisites

- You must be assigned to the SSA role (ntsysadm).
- You must have the CD containing the hard drive firmware upgrade file.

Procedure Steps

Step	Action
1	Load the hard drive firmware upgrade CD into the CD-ROM drive.
2	Log on to the server as the SSA role (ntsysadm).
3	Reboot the server. `sudo reboot`
4	If the operating system has been installed, change the boot sequence so that the CD-ROM is the primary boot device by doing the following: • When the BIOS information appears, press **F12** to select the boot sequence. • Select **CD-ROM** as the primary boot device. Otherwise, wait for the server to reboot. The ServeRAID Manager Hard Drive Update screen appears.
5	If an upgrade is required, press **Enter** to apply the upgrade. The hard drive firmware upgrade is installed. Otherwise, press **Enter** and go to step 7.
6	Select **OK** twice to complete the upgrade. **Attention:** Do not power off the system during the upgrade.
7	When the update completes, remove the CD from the CD-ROM drive and select **OK** to boot the operating system.
	--End--

Installing ServeRAID firmware upgrades

Use this procedure to install ServeRAID firmware upgrades. This procedure requires the reboot of the server.

Prerequisites

- You must be assigned to the SSA role (ntsysadm).
- You must have the CD containing the ServeRAID firmware upgrade file.

Procedure Steps

Step	Action
1	Load the ServeRAID firmware upgrade CD into the CD-ROM drive.
2	Log on to the server as the SSA role (ntsysadm).
3	Reboot the server.
4	If the operating system has been installed, change the boot sequence so that the CD-ROM is the primary boot device by doing the following: • When the BIOS information appears, press **F12** to select the boot sequence. • Select **CD-ROM** as the primary boot device. Otherwise, wait for the server to reboot. The ServeRAID Manager screen appears. (This may take up to two minutes.)
5	If an upgrade is not required, click **OK** to reboot server and go to step 9. (The **OK** prompt does not always display. If this happens, select **File> Exit**, and select **Restart** to reboot the server.) Otherwise, select **Update** to apply the update. **Attention:** Do not power off the system during the update. The ROM Update Wizard displays a firmware message.
6	Click **OK**.
7	Click **Next** to complete the update.
8	Click **Finish**. The server reboots.
9	Remove the CD from the CD-ROM drive.

--End--

Multimedia PC Client upgrade

This section provides the procedures that you use to upgrade the Multimedia PC Client. Choose one of the following methods:

- "Upgrading the ASU load" (page 109)
- "Upgrading the Multimedia PC Client installer executable" (page 110)

Upgrading the ASU load

Use this procedure to upgrade the Automatic Software Update (ASU) load.

Attention: If a user is in the process of upgrading the Multimedia PC Client when you delete the files, the upgrade fails. The end user can still make calls using their Multimedia PC Client. After you add the new files, the user can upgrade the Multimedia PC Client.

Prerequisites

- You are an AA (ntapadm).
- A Provisioning Manager server is available.
- The ASU files are already stored in a location on the Provisioning Manager server.

Procedure Steps

Step	Action
1	Log on to the server that hosts the Provisioning Manager and Personal Agent as an AA (ntappadm).
2	Change to the ASU directory: **`cd /var/mcp/run/MCP_11.0/PROV1_0/tomcat/webapps/pca/asu`**
3	Download the latest PCC files MMPCClient(6.1.XXX_200ymmdd)_Release.zip and MMPCClient(6.1.XXX_200ymmdd)_Release.jnlp files from the ebuild server.
4	Move the <PCCLient>.zip file to the pcclientcode directory: **`mv <PCClient>.zip ../pcclientcode`**
5	Rename the <PCClient>.jnlp file: **`mv <PCClient>.jnlp smcclient.jnlp`**
6	Change file permissions for sncclient.jnlp: **`chmod 755 smcclient.jnlp`**
7	Change to the pcclientcode directory:

```
cd /var/mcp/run/MCP_11.0/PROV1_0/wars/pca/pccli
entcode
```

8 Unzip the file:

```
unzip <PCCLient>.zip
```

--End--

Upgrading the Multimedia PC Client installer executable

Use this procedure to upgrade the installer executable for the Multimedia PC Client. It is common practice to make the installer available for download from a web page or FTP server. The method of distribution is at the discretion of the site administration.

Procedure Steps

Step	Action
1	In the distribution location, replace the existing executable file with the new executable file.

--End--

Downgrades

Maintenance Release and patch upgrades of the AS 5300 database are backwards compatible. However, if data in the database becomes corrupted, the database can be downgraded to a previous Maintenance Release or patch. This chapter contains procedures for downgrading the various system components as well as the full system.

Navigation

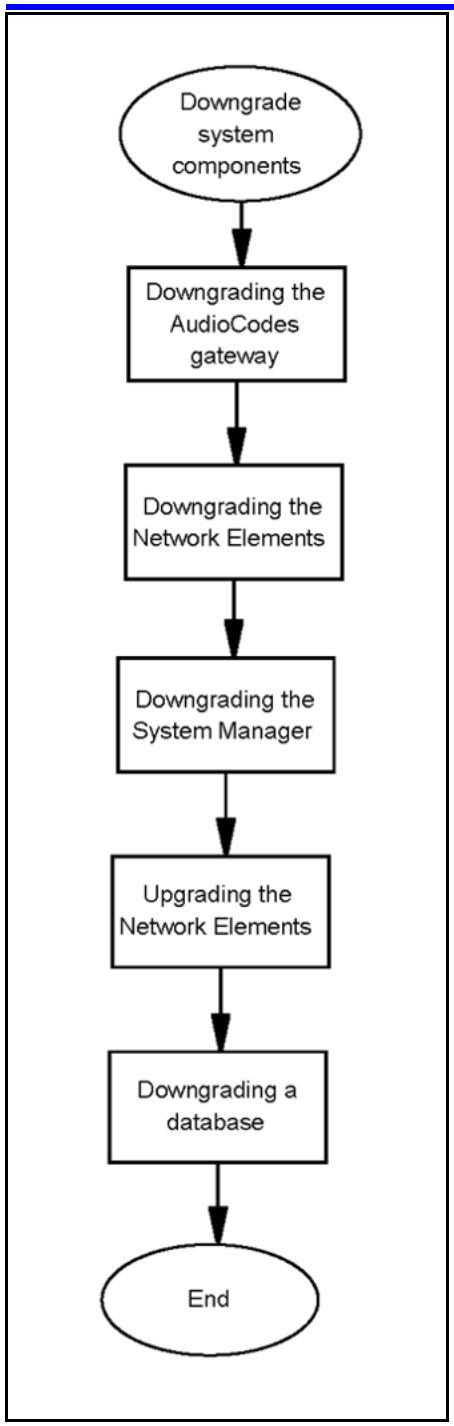
- "Downgrade system components" (page 111)
- "Downgrade a full system" (page 116)

Downgrade system components

Use the procedures in this section to downgrade the system components (excluding the database).

Downgrade system components procedures

This work flow shows the procedures for downgrading the various system components to a previous software load.



Downgrade system components navigation

- "Downgrading the AudioCodes gateway" (page 113)
- "Downgrading the Network Elements" (page 113)
- "Downgrading the System Manager" (page 113)
- "Downgrading a database" (page 114)

Downgrading the AudioCodes gateway

Use this procedure to downgrade the AudioCodes gateway. The only supported method for downgrading the AudioCodes gateway is to use the SunFire V-215 EMS servers.

Downgrading the Network Elements

Use these procedures to downgrade the Network Elements.

Procedure Steps

Step	Action
1	From the EMS **MG Tree** pane, select the AudioCodes gateway to be downgraded. The **Info** pane and the **Status** pane now display the AudioCodes gateway.
2	From the **Info** pane, select**Software Upgrade**. The **Files Manager** screen is displayed.
3	Select the appropriate software (CMP) to be downloaded and click **OK** in the **Files Manager** screen. A **Question** screen is displayed.
4	From the **Question** screen, select**System Reset Upgrade** and click **Yes**. The selected software (CMP) is downloaded to the AudioCodes gateway, and the AudioCodes gateway is reset.

--End--

Downgrading the System Manager

Use this procedure to downgrade the System Manager to a previous patch or Maintenance Release.

Attention: Downgrade the Network Elements in the order specified by this procedure.

Procedure Steps

Step	Action
1	At the primary Element Manager server, log on as the AA role (ntappadm).
2	Change directory: `cd /var/mcp/install`

3 Do one of the following:

If this is a downgrade to a previous Maintenance Release, edit the installprops.txt file as follows:

ne.load=<previously deployed 11.0.X.X loadname>

Run the upgrade script:

`./smUpgrade.pl`

OR

If this is a downgrade to a previous patch, run the following script:

`/mcpPatch.pl -smonly`

4 When prompted, select the previous patch to be applied.

--End--

Downgrading a database

Use this procedure to downgrade the database in the event the upgrade of a replicated database fails or if performing a complete system downgrade.

WARNING

When an AS 5300 database server is downgraded, the existing database is overwritten with a backup copy during database restoration. As a result, all provisioning and configuration changes made to the database since the backup copy was created are lost.

A downgrade of the database server should only be performed if all other system recovery options have failed.

Prerequisites

- The database can only be downgraded to a version which had been successfully deployed in the past.
- The version of the load that is being downgraded to exists on the Element Management server.

Attention: Any attempt to downgrade the database to a version other than those listed above will fail because there is no associated backup from which to restore the database.

Procedure Steps

Step	Action
1	Log on to the Primary Database server as the DBA role (ntdbadm).
2	Change directory: **cd /var/mcp/run/MCP_11.0/<dbname>_0/bin**
3	Run the cleanup script: **./cleanupReplication.pl**
4	Log on to the primary Element Manager server as the AA role (ntappadm).
5	Change directory: **cd /var/mcp/install**
6	Run the following script: **.mcpPrepareLoad.pl –l <11.0.1.0_loadname>**
7	Run the database installation command: **./dbInstall.pl –fo** The following message appears: **Continue with these settings?**
8	Verify the settings and reply **Y**. The following message appears: **Perform "Deploy Files Only" operation to Secondary DB also (Y/N)?**
9	Reply **Y**. The next steps are to verify that the database backup file exists in the /var/mcp/db/backup directory on the server hosting the Secondary database.
10	Log on to the secondary database server as the DBA role (ntdbadm).
11	Change directory: **cd /var/mcp/db/backup**
12	List the files in the directory: **ls –lrt**
13	Verify that the database backup file is in the list and that the size of the file matches the file on the Primary Database server. If the file is not there, secure FTP it from the Primary database server.

14 Log on to the secondary database server as the DBA role (ntdbadm).

15 Change directory:

cd /var/mcp/run/MCP_11.0/<dbname>_1/bin/util

16 Run the restore script:

./dbRestore.pl <backupfilename>

17 (Optional) If this procedure is being performed as part of a full system downgrade, do the following before proceeding to the next step:

- Downgrade the AudioCodes gateway
- Downgrade the Network Elements
- Downgrade the System Manager

18 Log on to the secondary database server as the DBA role (ntdbadm).

19 Change directory:

cd /var/mcp/run/MCP_11.0/<dbname>_1/bin/util

20 Run the database re-synchronization script:

./resync.pl

This completes the database downgrade procedure.

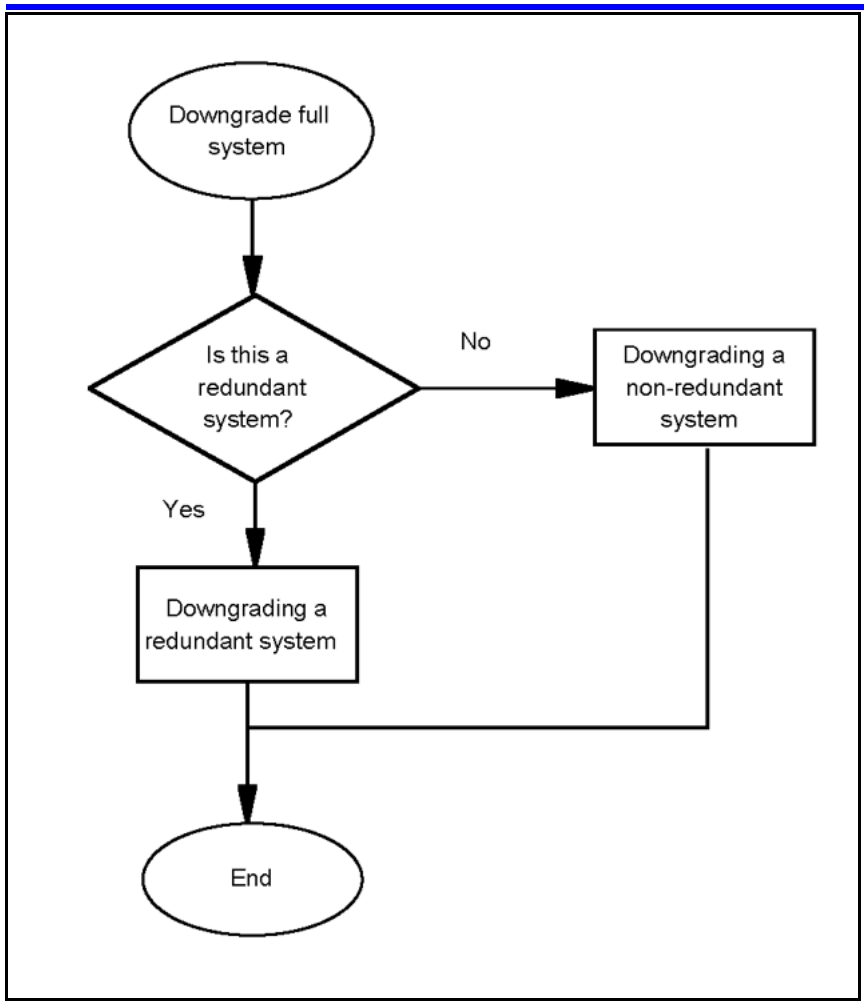
--End--

Downgrade a full system

Use these procedures to downgrade a full system. Full system downgrades should only be used as the last option for system recovery.

Downgrade a full system procedures

This task flow shows the sequence of procedures you perform to downgrade a full system.



Downgrade a full system navigation

- "Preparing for full system downgrades" (page 117)
- "Downgrading a redundant system" (page 118)
- "Downgrading a non-redundant system" (page 118)

Preparing for full system downgrades

Before performing full system downgrades, follow the instructions in this procedure.

Procedure Steps

Step	Action
1	(Optional) Compose a list of all Network Elements and the servers they reside on, including the redundant Network Elements. Use this list to keep track of which Network Elements have been downgraded.

2	Stop all active Provisioning Managers and Personal Agent Managers. From the System Manager console navigation tree, navigate to **Network Elements > Manager** and select the Network Element.
3	For the selected Network Element, click on **Maintenance**. The Network Element Maintenance window opens.
4	In the Network Element Maintenance window, select instance ID 0.
5	Click **Stop**. Repeat steps 2 through 4 for each Provisioning Manager and Personal Agent Manager.

--End--

Downgrading a redundant system

Use this procedure to downgrade a redundant system.

Prerequisites

- For information about downgrading a database, see "Downgrading a database" (page 114).
- For information about downgrading AudioCodes, see "Downgrading the AudioCodes gateway" (page 113).
- For information about downgrading Network Elements, see "Downgrading the Network Elements" (page 113).
- For information about downgrading the System Manager, see "Downgrading the System Manager" (page 113).

Procedure Steps

Step	Action
1	Downgrade the Secondary database.
2	Downgrade the AudioCodes Gateway.
3	Downgrade the Network Elements.
4	Downgrade the System Manager.
5	Re-synchronize the databases.

--End--

Downgrading a non-redundant system

Use these procedures to downgrade a non-redundant system.

Downgrading a non-redundant system navigation

- "Downgrading a non-redundant system with a replicated database" (page 119)
- "Downgrading a non-redundant system with a single database" (page 119)

Prerequisites

- For information about downgrading a database, see "Downgrading a database" (page 114).
- For information about downgrading AudioCodes, see "Downgrading the AudioCodes gateway" (page 113).
- For information about downgrading Network Elements, see "Downgrading the Network Elements" (page 113).
- For information about downgrading the System Manager, see "Downgrading the System Manager" (page 113).

Downgrading a non-redundant system with a replicated database

Procedure Steps

Step	Action
1	Downgrade the secondary database.
2	Downgrade the AudioCodes Gateway.
3	Downgrade the Network Elements.
4	Downgrade the System Manager.
5	Re-synchronize the databases.

--End--

Downgrading a non-redundant system with a single database

Procedure Steps

Step	Action
1	From the System Management console, stop all active Network Elements in the following order: • Provisioning Managers • Personal Agent Managers • Session Managers • Accounting Managers

- IP Client Managers
- Fault-Performance Managers

2 Downgrade the database.

3 Downgrade the AudioCodes Gateway.

4 Downgrade the System Manager.

5 Downgrade the Network Elements.

--End--

Common procedures

The following sections describe common procedures used while installing and configuring the AS 5300 system.

Navigation

- "Rebooting the system" (page 121)

Rebooting the system

Use the following procedure to reboot the AS 5300 server.

Procedure Steps

Step	Action
1	Reboot the server by doing one of the following: • Restore power. If this is the primary installation, power the server on. • Users with sudo access can log on to an active server as **root** and issue the **`sudo reboot`** command.

--End--

Application Server 5300

Nortel AS 5300 Installation

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